NEW EQUIPMENT DIGEST

A Penton Publication

November, 1961

Volume 26 — Number 11

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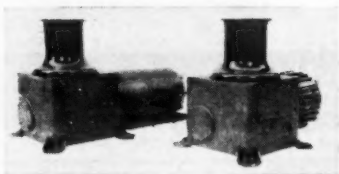
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

CAPSTAN-TYPE CAR SPOTTER
5-hp units rated at 6000-lb pull



Increased load ratings of 6000-lb starting pull and 3000-lb running pull are featured by redesigned 5-hp capstan-type car spotters. Model 55A has a foot-mounted motor on a bracket fastened to the housing; whereas Model 50A has an integral flange-mounted motor. Both are available with steel frame carriages and wheels for mobility. Cam-type backstop, an improvement which replaces the ratchet and pawl assembly, will hold cars on an incline in case of power failure. • **Link-Belt Co.**, Prudential Plaza, Chicago 1, Ill.

▲ For more details circle **NED-1 L1** on enclosed inquiry slip ▲

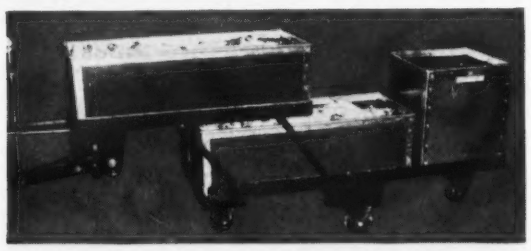
PARTS MARKING MACHINE
marks on top, one or two sides

Neat, durable imprints up to 2 x 6 in. size are imprinted on three sides of covers, parts and packages of metal, cardboard, plastic, glass, and other materials by the Model 154A marking machine. Part shown is a voltage regulator cover. Two air-operated printing heads simultaneously mark on two sides, then a third head marks the top. Any of several types of magnetic or nonmagnetic workholding fixtures may be included. Printing elements are rubber plates for long runs or Markem Masterplates for quick and frequent imprint changes. • **Markem Machine Co.**, 170 Congress St., Keene 68, N. H.

▲ For more details circle **NED-2 L1** on enclosed inquiry slip ▲

MATERIALS HANDLING TRUCK
has three accessible receptacles

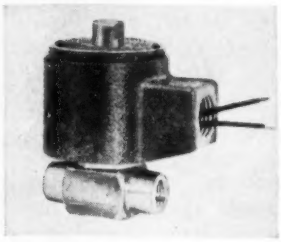
Three vulcanized receptacles, all accessible simultaneously, are provided by this two-level flip-top materials handling truck. Unit has two rectangular receptacles,



lower one of which rests on the truck bed; the other is held above the first on movable arms. Top receptacle can be swung out over the bottom unit. A taller square hamper occupies the end of the truck. Unit is convenient in aisle work, where receptacles are accessible to employees working on either side. Welded angle-iron chassis rides on 4-in. plain-bearing steel casters. Dimensions of truck vary with requirements. • **National Vulcanized Fibre Co.**, 1061 Beech St., Wilmington 99, Del.

▲ For more details circle **NED-3 L1** on enclosed inquiry slip ▲

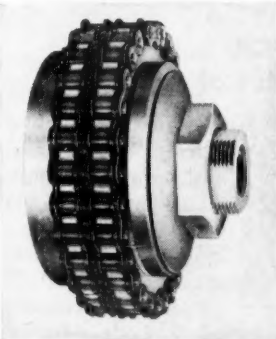
TWO-WAY SOLENOID VALVE
for high vibration service



This normally-closed two-way solenoid valve withstands vibration of 20 to 500 cps at 10-g level without shifting position. It will handle diesel fuel, kerosine, and gasoline at temperatures from −65 to 150° F and at pressures to 1000 psi. Unit has an explosionproof NEMA Type 7C, 7D solenoid enclosure, and is supplied in 1/8-in. NPT pipe size with brass body and seat, and a Viton A disc. • **Automatic Switch Co.**, Hanover Road, Florham Park, N. J.

▲ For more details circle **NED-4 L1** on enclosed inquiry slip ▲

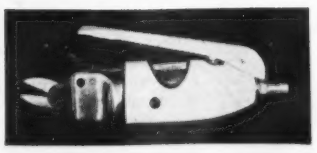
OVERLOAD SAFETY COUPLING
disengages when set load is reached



Basic Dalton OSD overload safety device is combined with a roller chain coupling half in this torque-limiting OSD coupling. Standard double width roller chain joins the basic OSD unit and the half coupling. Device disengages when a set maximum load is reached and re-engages automatically when overload is eliminated. Torque load is easily set using a torque wrench. • **Dalton Gear Co.**, 212 Colfax Ave. N., Minneapolis 5, Minn.

▲ For more details circle **NED-5 L1** on enclosed inquiry slip ▲

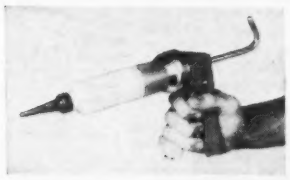
AIR-POWERED PLIERS
with four different cutting heads



Multipurpose, 7¾-oz, 6 in.-long Airplier considerbly increases electrical component and circuit work output over that achieved with hand tools. Easily operated with either hand, tool is offered with four interchangeable heads. One cuts wire with a square edge, and another cuts and swages at the same time. A third head is designed for cutting plastic gates and flashing, and the fourth cuts with a diagonal edge. • **Rotor Tool Co.**, 26300 Lakeland Blvd., Cleveland 32, Ohio.

▲ For more details circle **NED-6 L1** on enclosed inquiry slip ▲

SEALANT GUN
for one and two-part compounds



Any 2½ and 6-oz polyethylene cartridges containing one and two-part sealing and caulking compounds, adhesives, epoxies, polysulfides, and silicones can be dispensed from the SP 1832 hand operated sealant gun. Lightweight, corrosion resistant metal unit has a comfortable pistol grip with ratchet and lever action. Disposable cartridges are easily removed for gun refilling or changing of compound. Price is under $7. • **Pyles Industries Inc.**, 20855 Telegraph Rd., Detroit 41, Mich.

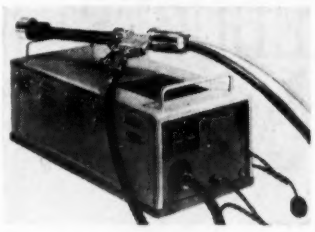
▲ For more details circle **NED-7 L1** on enclosed inquiry slip ▲

COLOR CODING COMPOUND
alkyd type adheres to grime, grease

Metals, woods, plastics, and other materials can be color coded as to size, formulation, length, or any other characteristic with Code-A-Color, an aerosol compound packaged in 16-oz spray cans. The alkyd type material will adhere to grime or grease without loss of color or brightness. Precleaning is not required. Red, yellow, orange, black, blue, gray, brown, green, gold, copper, and aluminum colors are available. • **Perc E. Harms Co.**, 1751 Harding Rd., Northfield, Ill.

▲ For more details circle **NED-8 L1** on enclosed inquiry slip ▲

ELECTROSTATIC SPRAY GUN
handles plastic, enamel powders with minimum waste in deposit



Intricate shapes can be coated with plastic or enamel powder by the Stajet electrostatic hand spray gun. Among its many other uses are spraying of insecticides and textile and paper coating. Equipment consists of a SAMES electrostatic generator which delivers a harmless 90,000 v at a 0.2-amp current rating, plus a spray gun with an antisparking head, and a powder reservoir with vibrator.

Emerging electrically charged particles are evenly deposited on any object within the electric field, eliminating waste. Thus, an entire object can be coated by directing the gun to one face or side only. Subsequent processing by heat or baking bonds the plastic or enamel powders into a smooth coating. Antisparking head of the noiseless unit makes possible use with burnable powders. Price of French-made gun is $1700 and powder reservoir is $450. • **SAMES**, 30 Broad St., New York, N. Y.

▲ For more details circle **NED-9 L1** on enclosed inquiry slip ▲

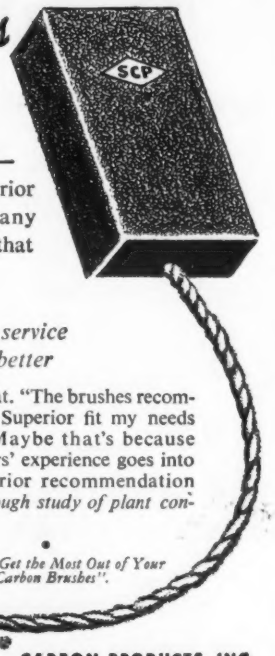
AUTOMATIC TORCH
affords savings in gas and oxygen

Up to 50 per cent reductions in gas and oxygen consumption can be realized with this 18-2F automatic torch which eliminates frequent flame adjustments and

relighting. Serrated thumb control in off position reduces flame to a pilot light, cutting back fuel and oxygen consumption, then restores original preset flame when needed. Torch's universal mixer accommodates the first 12 Harris tip sizes, whereas welding tip assemblies 15, 19, and 22 have individual mixers. Also usable with the torch is the H-43-4 Multi-Flame heating assembly and the Model 73 attachment that cuts thicknesses up to 6 in. • **Harris Calorific Co.**, 5501 Cass Ave., Cleveland 2, Ohio.

▲ For more details circle **NED-10 L1** on enclosed inquiry slip ▲

Try them and us AND SEE



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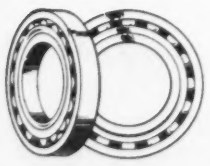

You can now save on many of your current and future purchases of these bearings.

Send your inquiry now! Write, wire, or call Kaydon, Muskegon, Michigan. Phone: PLaza 5-3741.

K-610

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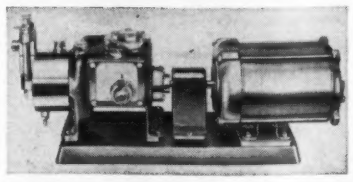
All types of ball and roller bearings — 2" inside diameter to 178" outside diameter . . . Taper Roller Roller Thrust • Roller Radial • Needle Roller • Ball Radial • Ball Thrust • Four-Point Contact Bearings

▲ For more details circle NED-12 L1 on enclosed inquiry slip ▲

LABORATORY FEED PUMP
has 5-ml to 2½ gph capacity range



Six different plunger sizes, three standard gear ratios, and three motor speeds provide the Micro-Regulating laboratory feed pump with flexibility in application. Maximum pumping capacity is 2½ gph and flow rates of less than 5 ml per hour are obtainable. Hydraulically actuated diaphragm unit has zero leakage. Fluids handled are contained by a metal-to-metal diaphragm seal to prevent contamination. All wetted parts are stainless steel, with Monel, Inconel, and Hastelloy optional. Ten-turn micrometer adjustment of stroke length assures precise flow rate control. • **Whitey Research Tool Co.**, 5525 Marshall St., Oakland 8, Calif.

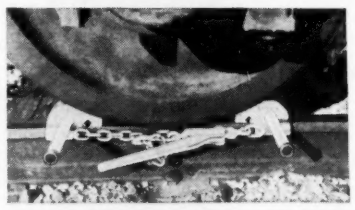
▲ For more details circle NED-13 L1 on enclosed inquiry slip ▲

SATURABLE REACTOR CONTROL
features infinite wattage control

Power-O-Matic 60 saturable reactor, a self-contained packaged control unit, may be combined with products in design or used as a conversion kit for equipment with conventional on-off cycling control systems. It has straight-line, stepless, switchless, infinitely proportional wattage control, and it consistently repeats temperatures throughout its entire range. Package includes a Power-O-Matic control, reactor, voltmeter, and circuit breaker in a ventilated aluminum housing. Fused control circuit, Range-Lock over-temperature protection, and power terminal for unit connection are built in. • **Blue M Electric Co.**, 138th & Chatham Street, Blue Island, Ill.

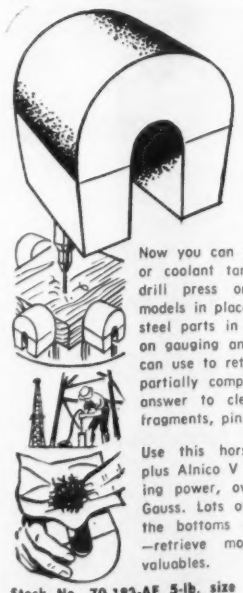
▲ For more details circle NED-14 L1 on enclosed inquiry slip ▲

SAFETY WHEEL CHOCK
locked on both sides of wheel



Railroad car motion during loading and unloading is eliminated by the Style B-2 double tension type safety wheel chock. The 16-lb set has two chocks which are drawn tight and locked to both sides of the wheel by load binder action. Handles are provided. It is easily set in place and removed, will fit any size wheel, and can be used on diesel engine or freight, tank, piggyback, and passenger cars. • **Aldon Co.**, 3338 Ravenswood Ave., Chicago 13, Ill.

▲ For more details circle NED-15 L1 on enclosed inquiry slip ▲



GIANT WAR SURPLUS INDUSTRIAL MAGNET MIDGET PRICE!

ALNICO V—lifts over 125 lbs.
101 Uses:
over $40.00 Value

$9.95 POSTPAID

Now you can easily recover tools from dip or coolant tanks, hold work in place for drill press or grinding operations, hold models in place on layouts, and use to hold steel parts in place for welding, soldering, on gauging and aligning racks. Oil drillers can use to retrieve broken drill heads from partially completed wells. Also the perfect answer to cleaning shop floors of metal fragments, pins, etc. without taking up dirt.

Use this horseshoe-shape, 5-lb. war surplus Alnico V type Magnet—tremendous lifting power, over 125 lbs. Rated at 2,000 Gauss. Lots of fun, too—use for "fishing" the bottoms of lakes, rivers, ocean, etc. —retrieve motors, fishing tackle, metal valuables.

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EDMUND SCIENTIFIC CO., Barrington, N. J.

▲ For more details circle NED-16 L1 on enclosed inquiry slip ▲

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Mounted Shears, Presses, Brakes, Lathes and Benches on pads with the following immediate results—
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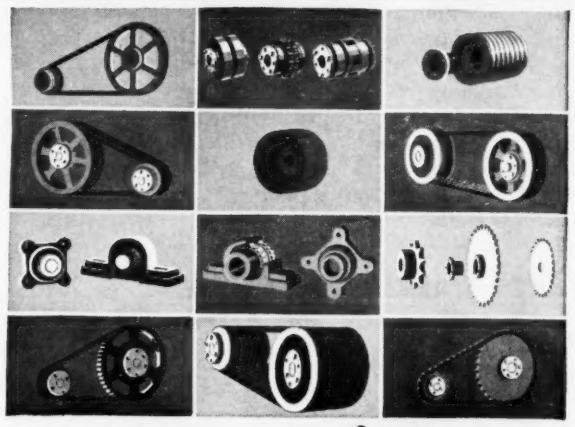

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For quick service on every power transmission need, see your Browning distributor. He stocks thousands of sizes and types of belts, sheaves, chain, sprockets, couplings, bearing units, paper pulleys; including new Gearbelt drives. For details, request Catalog GC101. **Browning Manufacturing Company, Maysville, Kentucky.**

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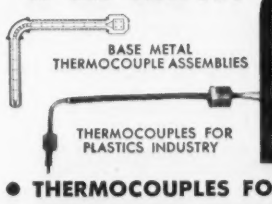

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- NOBLE METAL THERMOCOUPLES
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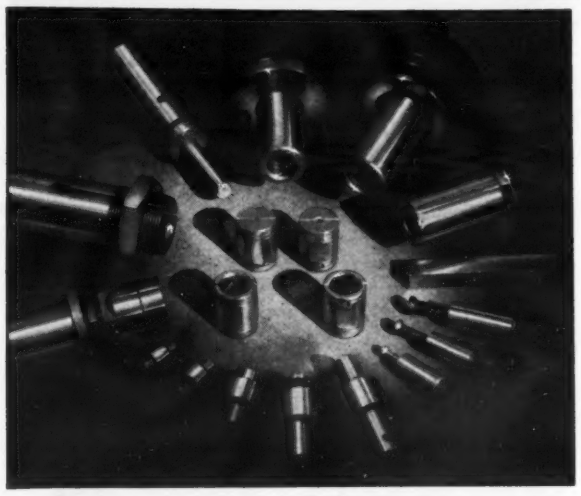

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PRECISION SCREW MACHINE TOOLING
ALL SHIPMENTS PARCEL POST PREPAID
REPRESENTATIVES WANTED IN MAJOR TERRITORIES

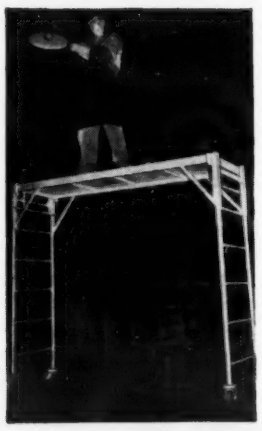
MARCELLUS MFG. CO., P. O. BOX 1056, NEW PORT RICHEY, FLORIDA

▲ For more details circle **NED-20 L1** on enclosed inquiry slip ▲

NOW YOU CAN

ROLL OVER

MAINTENANCE OBSTACLES!!



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MAINTENANCE
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- Rolls through doorways
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For complete details on how to save time and money by rolling over maintenance obstacles, write for Uni-Stage Bulletin **D-11.**

UNIVERSAL

MFG. CORP., ZELIENOPLE, PA.

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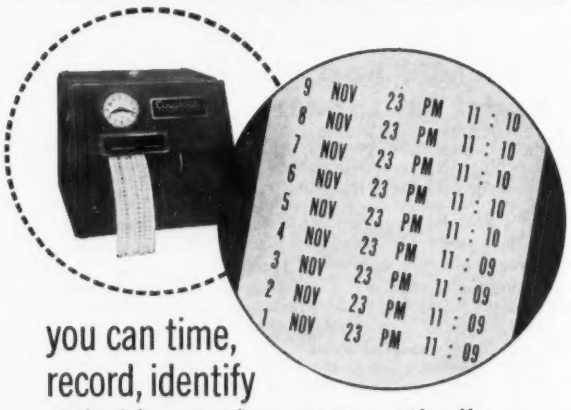

you can time, record, identify switching action, automatically

Which switch? When did it open? When did it close? With the simple, inexpensive CINCINNATI "CSR" you have all the answers . . . permanently recorded.

Security check on doors . . . testing . . . production planning . . . time study . . . any operation involving the principle of switching. How many other uses? With ingenuity, who knows?

• Single . . . and ten station models recording up to 60 operations per minute. • Memory relay permits storage of momentary and simultaneous signals.

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"If it's about time . . . call for Cincinnati"

Cincinnati
TIME RECORDER COMPANY
1737 Central Avenue, Cincinnati 14, Ohio

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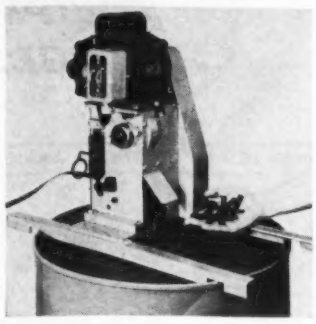
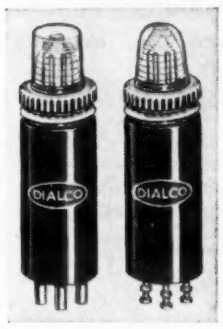
SCRAP STRAP CHOPPER
shears steel strap in 3-in. lengths



Electrically driven scrap strap chopper shears flat and oval strapping into 3-in. lengths at a rate of 70 fpm. All grades of up to ¾ x 0.025 in. flat strapping in double thickness, including the seal, and up to 12-gage oval wire can be handled. Unit can be mounted on a 55-gal drum, bin, or salvage truck. Jaws are easily resharpened. • **A. J. Gerrard & Co.,** 400 E. Touhy Ave., Des Plaines, Ill.

▲ For more details circle **NED-23 L1** on enclosed inquiry slip ▲

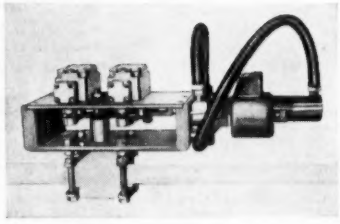
NEON INDICATOR LIGHTS
subminiature transistorized type



Each assembly in the STI Series of subminiature neon indicator lights is an enclosed, integrated unit. The lampholder contains the neon lamp, transistor driver, and required circuitry. The 1 15/16-in. long lights mount in a single ⅜-in. clearance hole from the back of the panel. Fully insulated, they use NE-2E or NE-2V neon lamps. High-heat plastic lenses in omni-directional stovepipe or long cylindrical shapes, with or without fresnel diffusing rings, are made in four colors. Cylindrical lens may be stamped with up to a 3-digit legend. Gold plated terminals are taper pin or turret type. • **Dialight Corp.,** 60 Stewart Ave., Brooklyn 37, N. Y.

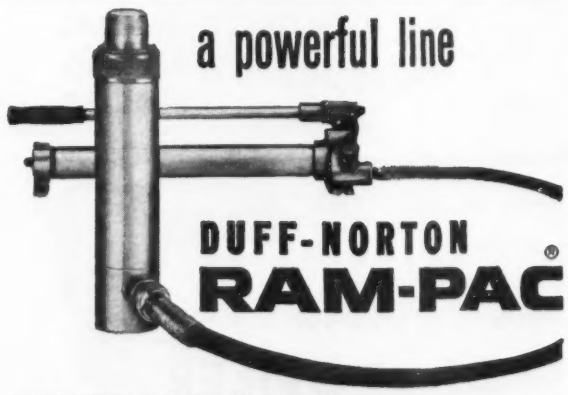
▲ For more details circle **NED-24 L1** on enclosed inquiry slip ▲

REMOTE VALVE OPERATOR
for all quarter-turn ball valves



Side play action and valve stem strain are eliminated by design of this remote control ball valve operator. It mounts on all makes of quarter-turn ball valves by means of universal hangers. Various combinations of controlling solenoids, limit switches, and valve positioners are offered, including spring return and fail-safe types. Stocked sizes range from ¼ to 3 in. for threaded-end valves and ½ to 4 in. for flanged-end valves. Special units are available for larger valves. • **Ju-No Supply Corp.,** Box 1116, Clearwater, Fla.

▲ For more details circle **NED-25 L1** on enclosed inquiry slip ▲



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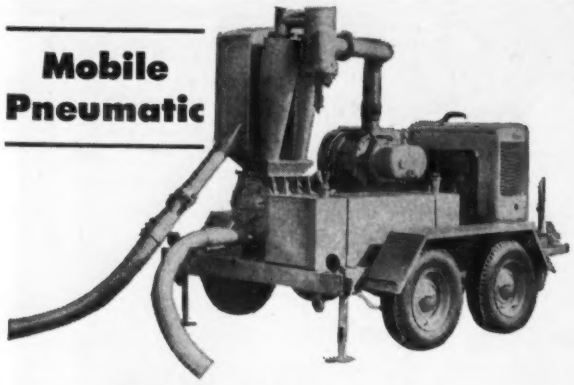
HYDRAULIC RAMS AND PUMPS
12 RAMS, 5 PUMPS, CAPACITIES 10 TO 100 TONS

The complete Duff-Norton Ram-Pac line gives you the power source you want—where you want it and with little effort. The 12 rams may be used with 5 hand or power pumps to apply from 10 to 100 tons of force in any direction in either portable or permanent applications. For information on this line of rams, pumps, attachment units, accessories and fittings ask your distributor or write for Bulletin AD-90-N.

DUFF-NORTON JACKS
DUFF-NORTON COMPANY
Four Gateway Center, Pittsburgh 22, Pa.

▲ For more details circle **NED-26 L1** on enclosed inquiry slip ▲

Mobile Pneumatic



Bulk Conveyor

Just pull it in, connect the lines, and it's ready to go . . . ready to load, unload, or transfer grain or other granular products at rates up to 50 tph.

The compact new BUHLER pneumatic conveyors are complete with power unit, air pump, air lock, separator, cyclone, and controls all mounted on sturdy rubber-tired chassis. Can be towed at normal road speeds.

Can You lower your handling costs with a BUHLER? *Write today for facts.*

- 10, 25, and 50 ton-per-hour capacities
- Compact, maneuverable
- Low power cost per ton of capacity
- Gasoline, diesel, or electric power
- Big fuel tank gives 8-12 hours non-stop operation
- Shuts off automatically if obstructed

The **BUHLER** Corporation
8925N Wayzata Boulevard, Minneapolis 26, Minnesota

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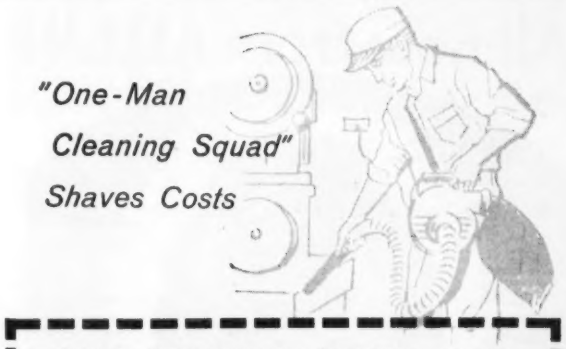


"One-Man Cleaning Squad" Shaves Costs

GOES ANYWHERE--WORKS FAST

BLOWS
VACUUMS
SPRAYS
DRIES*

IDEAL

HAND-TYPE CLEANER

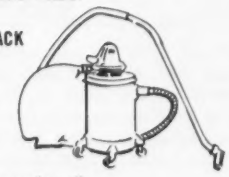
Pick the hardest cleaning jobs in your plant *or* front office. Machinery, storage bins, floors, scrap collection—even draperies, rugs and venetian blinds. This cleaner was built to handle them all—with least effort and in least time!

You get up to 26,500 feet per minute dry air blowing velocity (Heavy-Duty model) to remove chips and litter from difficult spots around machines and shelves. Yet it's gentled by Ideal air-engineering to be harmless to most sensitive equipment. Simple, low-cost attachments make spraying and drying* just as easy.

For vacuum cleaning, there are attachments, nozzles, hoses to handle every pick-up chore. Light-weight, balanced design minimizes fatigue. Three models: 1-1/3, 2/3, and 2/5 HP. You pick the power and the attachments to do your job best—and at lowest initial and operating cost.

*2/5 H.P. Model only available with heater nozzle.

FOR WET OR DRY PICK-UP LOW-COST TANK CONVERSION PACK
Hand-type unit slips onto tank to convert any Heavy or Medium Duty model into a powerful Tank-Type cleaner. Water and cleaning solutions stay in the 12-gallon tank, dust and dirt pass into the dust-tight bag. Pack consists of tank and bag. Attachments extra.



Built to last for years and years of heavy service, all IDEAL Cleaners carry a written guarantee for your protection.

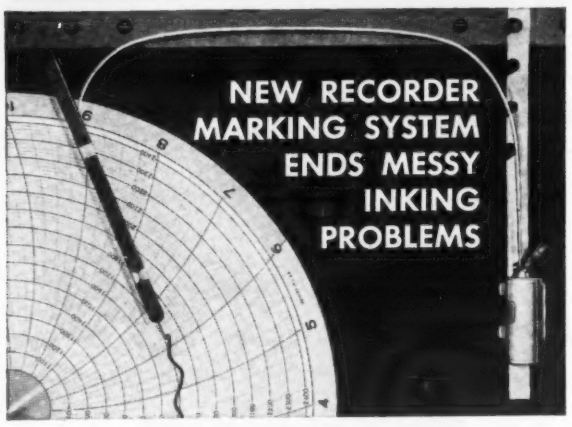
SOLD THROUGH AMERICA'S LEADING DISTRIBUTORS
In Canada: Irving Smith, Ltd., Montreal

Get the Value-Facts Now! Mail Coupon

IDEAL INDUSTRIES, Inc., 1032-K Park Avenue, Sycamore, Illinois
Send catalog data on IDEAL Cleaners and Blowers

Name_____
Company_____
Address_____
City_____ Zone_____ State_____

▲ For more details circle **NED-28 L1** on enclosed inquiry slip ▲



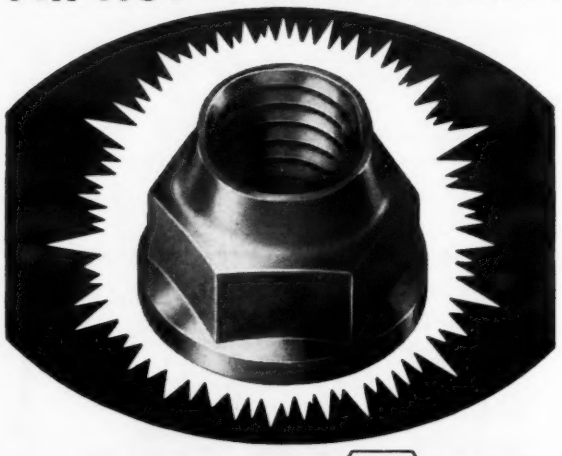
New *Esterbrook*® MARK-TROL eliminates *all* the mess and most of the cost of round chart recorder marker maintenance.

- Easily installed conversion kit fits 90% of round chart recorders now in use. Pays for itself in days.
- Completely sealed capillary system eliminates clogging, dust, dirt, moisture. Operates efficiently, even in severe humidity, chemical fumes, or temperature extremes.
- Sealed ink cartridge contains 9 months ink supply. No messy suction tubes, droppers, reservoirs, glass bottles, or plastic bags.
- Successfully field tested for over 2½ years. But for real proof, make your own test installation. Send your purchase order for a trial kit at $12.00 to our authorized distributor, TECHNICAL RECORDING CHART DIVISION, Graphic Controls Corporation, 189 Van Rensselaer St., Buffalo 10, N. Y. Or, circle inquiry card for descriptive 6-page brochure.

MARK-TROL* **THE ESTERBROOK PEN COMPANY**
*Trademark Technical Products and Instruments Division

▲ For more details circle **NED-29 L1** on enclosed inquiry slip ▲

All-new from ALLEN!



LOKON
general-purpose LOCKNUTS

✔ hold positively tight even after repeated on-off cycles . . .
✔ provide a "commercial" locknut in the "aircraft" quality range
✔ offer high strength without bulk for heavy-duty applications.

Now . . . you can get a locknut that is made to the same high quality standards as famous Allen socket screws. True to its name, the LOKON nut locks on a companion threaded member with a can't-shake-loose grip . . . holds indefinitely against heaviest impact and vibration. Because the basic design allows adequate deformation of the "turret top" without overstressing any portion of the periphery, "LOKONS" are highly resistant to fatigue failure. And, through closely controlled heat treatment, a degree of elasticity is achieved which permits re-use time after time without significant impairment of the locking action.

LOKON locknuts assemble fast and easy . . . start with finger spinning . . . tighten smoothly . . . lock at any point as soon as the threads in the elliptical section are fully engaged, and are readily removed without damage to the nut or mating part.

Check the EXTRAS you get in "LOKONS" . . . features that add up to extra value without extra cost!

Consistent uniformity in dimensions . . . in strength . . . in spring tension; Built-in flange saves washer cost, speeds assembly; One-piece, all-metal construction; No parts to become lost or damaged, nothing to deteriorate; Fully formed hex corners for sure-grip wrenching; High-grade alloy steel, heat treated; Class 3B threads; Meet performance requirements of specification MIL-N-25027.

Ask for Test Samples Test LOKON locknuts on your product and discover the many ways these high quality fasteners can save you assembly time and cut costs. Currently offered in sizes from No. 10 through ½", UNC and UNF threads. Other sizes available soon. And for prompt delivery, call your nearby Allen Distributor who carries full stocks of "LOKONS" as well as dependable Allen hex-socket screws.

ALLEN HEAD **ALLEN**

THE ALLEN MANUFACTURING COMPANY HARTFORD 1, CONN.
PLANT AT BLOOMFIELD, CONN. • WAREHOUSES IN CHICAGO, CLEVELAND, LOS ANGELES

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A PENTON PUBLICATION

PENTON BUILDING, CLEVELAND 13, OHIO • MAin 1-8260

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BPA NBP

Distribution this issue 88,000 copies

THE **DI-PROFILER**
***Flexible Shaft* RECIPROCATING TOOL**

For concave, convex, or flat surfaces—for intricate, detailed, hard-to-get-at jobs! The Di-Profiler saves costly hours of tedious hand labor—the reciprocating stroke is adjustable in length, from 0 to ¼"; in speed, from 0 to 100 strokes per second.

The Di-Profiler is efficient, versatile. Reciprocating accessories include: diamond files, steel files, discs, laps, hones; rotary accessories include: miniature diamond wheels and points, carbide burrs. In man-hours saved on production or precision jobs, the Di-Profiler quickly pays for itself.

Write for a free demonstration or Price List DN-111

HYPREZ DIVISION
ENGIS EQUIPMENT COMPANY
431 South Dearborn Street, Chicago 5, Ill.

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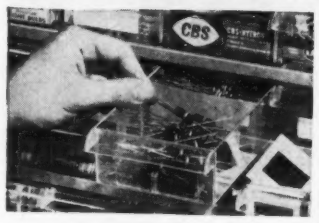
FREE! NEW CATALOG of A-M Cabinets that organize storage of all small parts

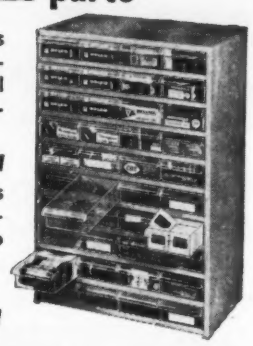


This new catalog shows how the scientific and efficient storage of small parts CUTS COSTS by saving space and time.

Model M40B illustrated

175 different stock models with from 6 to 128 drawers, or we can construct to your specific needs.

SEND TODAY FOR OUR NEW CATALOG!



A-M **AKRO-MILS CABINETS**
Box 989-F • Akron 9, Ohio

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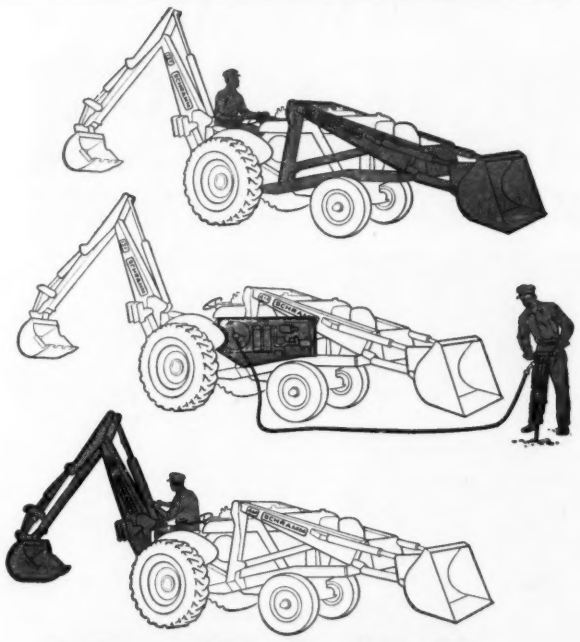


new

Co-ordinate your Air Power with the SCHRAMM Series 62 *Pneumatractor* Model 12F Backhoe Model 4M Loader

Here is a new multi-purpose piece of equipment that will co-ordinate many maintenance tasks. The new "Series 62" Heavy Pneumatractor is a self-propelled 125 cfm air compressor . . . a powerful 42 hp tractor . . . a heavy-duty backhoe . . . and a hard-working loader . . . *all in a single package.*

Check these new "Series 62" features:

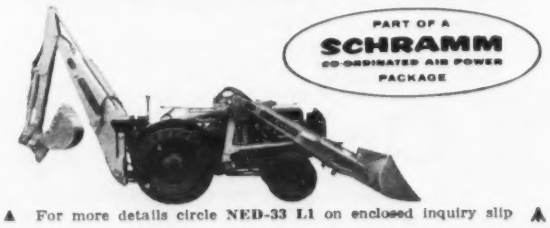
"Controlled Air Delivery" . . . select air power you need, from 42 to 125 cfm, to break out paving, drill rock, tamp backfill . . . even while using loader or backhoe.

Independently-mounted frame . . . new, sturdy box steel frame for mounting accessories relieves crankcase, clutch and transmission from all stress and strain.

Model 12F Backhoe . . . heavy-duty box steel construction of completely-new design . . . digs to 12'8" . . . hydraulically operated.

Model 4M Loader . . . 4,000 lb. capacity . . . longer, higher reach . . . fully hydraulic . . . box steel for strength.

Many other new features bring you an "all-round" machine in a single package to save you initial investment, operating costs and maintenance expense. *For full details including the many accessories available write Schramm, Inc., 700 Garfield Ave., West Chester, Pa.*



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American Cranehand COIL TILTER

Lifts!
Turns!
Transports!
Stacks!
. . . all in 1 operation!

Crane-suspended, this new coil **tilter**—believe it or not—does all **these** jobs easily in *one* continuous **motion** with coils from 1,000 to **60,000** pounds, depending on the **model**! Turns coils vertical and horizontal, either way, anywhere, under **the** crane!

Furthermore, it eliminates "C" **hooks**, vertical tongs, downenders and other auxiliary equipment!

And here's the net result: This new coil tilter drastically cuts damage incurred to thin edges of coils during handling; reduces handling time as much as 90%; increases up-to-double the amount of safe storage capacity, with the eye of the coil deposited in a vertical position on top of another!

Send us details of your coil handling problems and we will show you how to solve it with the American Cranehand Coil Tilter.

American Forge and MANUFACTURING CO.
McKEES ROCKS (Pittsburgh District), Pa.

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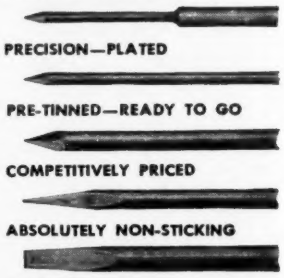
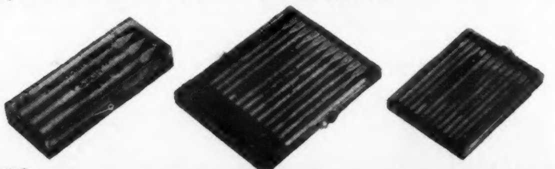
CUT PRODUCTION COSTS
. . . with Long, Long Life

"PARAGON" QUALITY Soldering Iron Tips

Fabricated of the finest materials . . . plated by a special process . . . made to the most exacting standards, "PARAGON Quality" soldering iron tips assure the extra satisfaction that only fine tools provide. "PARAGON Quality" assures uninterrupted production line soldering to laboratory standards. Available in shank-diameters from 1/8 to 3/8 inches in various shapes. Group packaged to assure quality control. Write for literature.



- MICRO-DIMENSIONED
- PRECISION—PLATED
- PRE-TINNED—READY TO GO
- COMPETITIVELY PRICED
- ABSOLUTELY NON-STICKING
- UNIFORM HEAT



210-B

AMERICAN ELECTRICAL HEATER COMPANY
DETROIT 2, MICHIGAN

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CUT AIR TOOL MAINTENANCE COSTS . . .

with Clean-Dry Compressed Air!

ADAMS AFTERCOOLERS provide virtually complete condensation of tool-damaging oil, moisture and dirt from pipeline gases — by efficient cooling to within 10°F. of the cooling water. ADAMS CYCLONE SEPARATORS then remove this condensate at a constant separation factor over all load ranges.

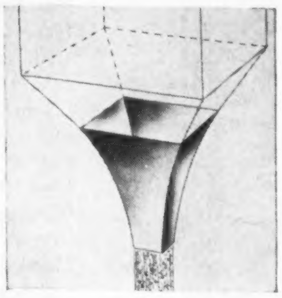
Adams offers this outstanding performance at substantial savings, made possible through specialization in Aftercoolers and Cyclone Separators — plus quality manufacturing methods developed over the years.

Investigate this low-cost method of protecting your pneumatic tools — write today for Bulletin 715! R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

ADAMS QUALITY COMES THROUGH

▲ For more details circle **NED-36 L1** on enclosed inquiry slip ▲

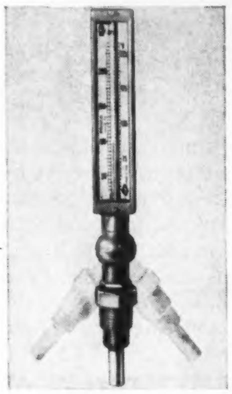
BIN OUTLET
eliminates granule bridging



Hyperbolic outlet for bins and hoppers eliminates bridging, rat-holing, and erratic flow of granular or lumpy materials. Its efficiency is achieved by a formulated design that reduces restrictions to flow and increases the force responsible for flow through the outlet. Unit is particularly effective in handling wet coal, rubber pellets, shale, stone, and feed materials that tend to pack and bridge. Outlet replaces the lower section of a conventional hopper and becomes an integral part of the bin. It minimizes the need for vibrators and other attachments used to speed bulk flow. ● **Bin-Dicator Co.,** 17190 Denver, Detroit 24, Mich.

▲ For more details circle **NED-37 L1** on enclosed inquiry slip ▲

6-IN. THERMOMETER
adjusts to any angle



Separable wells for liquid service or bare bulbs and perforated stems for high sensitivity and speed of response in air temperature indication are available with the 6-in. scale MultiForm thermometer. Installation is simplified by a feature which permits adjustment to any desired viewing angle, locked by a set screw. It can be made to by-pass piping and other obstructions. Ranges from −40 to 500° F are available with a red reading column, white face, and black markings. Vibration resistant cases are cast aluminum. ● **Precision Thermometer & Instrument Co.,** 1434 Brandywine St., Philadelphia 30, Pa.

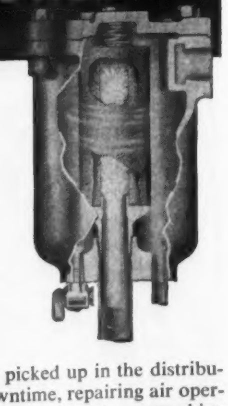
▲ For more details circle **NED-38 L1** on enclosed inquiry slip ▲

NEON PANEL LIGHT
mounts in 5/16-in. hole

High brightness NE-2-H neon bulb is utilized in the Model 858 panel indicator light. Plastic unit has two fixed terminals that do not expose bare wires. Light mounts in a 5/16-in. diameter hole and is held in place behind the panel by a Speed Nut. ● **Sloan Co.,** Color-Lite Div., 7704 San Fernando Rd., Sun Valley, Calif.

▲ For more details circle **NED-39 L1** on enclosed inquiry slip ▲

POSITIVE PRODUCTION PROTECTION



. . . accurately describes the exclusive double action cleaning of the ADAMS AIR FILTER . . . centrifugal separation followed by diffusion through the millions of tiny openings of the Poro-Stone element. The filter, installed at the terminal points of your system, completely frees the compressed air of entrained liquid, and any scale picked up in the distribution piping. Expensive production downtime, repairing air operated tools—cleaning fouled equipment components—reworking off-grade spray painting—are all unnecessary *and* eliminated when the Adams Poro-Stone filter provides clean, dry air. Adams units require virtually no service and maintenance — insuring continuous low-cost performance. They are available in a wide range of capacities to suit your needs. Bulletin 118 will give you all the facts. Write for your free copy today. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, N. Y.

ADAMS QUALITY COMES THROUGH

▲ For more details circle **NED-40 L1** on enclosed inquiry slip ▲

VISUAL MAGNETIC CONTROL

MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
- Production
- Personnel
- Sales
- Maintenance
- Scheduling
- Machine Loading
- Charts—Graphs
- Visual Presentations

COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM **$38** INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE11 **FREE** ON REQUEST

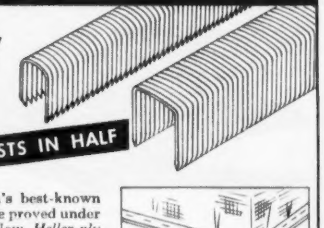
REPRESENTATION DESIRED IN SOME AREAS

Methods Research Corp.
105A Willow Ave., Staten Island 5, New York

▲ For more details circle **NED-41 L1** on enclosed inquiry slip ▲

NEW! rust-proof, corrosion-proof, salt-water-proof

heller-ply® STAPLES



CUT COSTS IN HALF

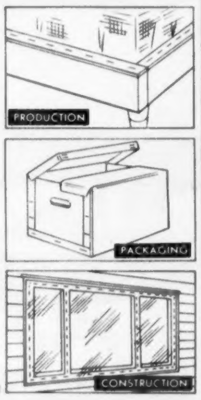
Perfected in one of America's best-known industrial laboratories . . . service proved under severest outdoor conditions. New *Heller-ply* staples are guaranteed against rust, chemical atmospheres or salt-water corrosion.

Made of steel base for strength, heavily electroplated with copper for lifetime protection, *Heller-ply* staples easily withstand severest conditions which, up to now, have required staples made of stainless steel or other expensive rust-proof metals.

And, new *Heller-ply* staples bring an important break-through in price. Cost only ½ as much as other rust-corrosion-salt-water-proof staples. Available in all standard industrial sizes, cost little more than standard staples.

Write today for complete information. Request Bulletin HPS. A-4812A

For use in Heller tackers.

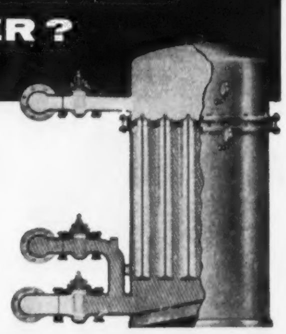


® *Trade-mark registered*

HELLER ROBERTS Instruments Corporation
6115 Carnegie • Cleveland 3, Ohio • Dept. P • Telephone EN 1-6161

▲ For more details circle **NED-42 L1** on enclosed inquiry slip ▲

NEED LOW COST FILTERED WATER?



Why not investigate the many advantages of the ADAMS IWF INDUSTRIAL FILTER for all your water needs? Manufacturing skill backed by 25 years of building water and chemical filters insures you top value for your purchasing dollar. Rugged construction and the Adams Poro-Stone, Poro-Carbon and other permanent metallic filter media practically eliminate maintenance problems. The exclusive Adams air pressure dome dynamically backwashes and flushes out accumulated solids in minimum time — with minimum labor — to give top value for your production dollar. There is an Adams design to solve all your liquid polish filtration problems. Why not investigate the many advantages of an Adams unit in your plant? Bulletin #651 has all the information. Interested in chemical filtration? Ask for your copy of bulletin #431. Automatic filtration? Ask for bulletin #909. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

ADAMS QUALITY COMES THROUGH

▲ For more details circle **NED-43 L1** on enclosed inquiry slip ▲

RUST PROTECTION

for any metal surface Protect any metal surface from rust caused by fumes, oil, water, caustics, greases and most solvents. This tough polyvinylchloride pressure-sensitive tape provides positive protection on any clean, dry surface and conforms to odd or irregular shapes. Easy to apply, "SCOTCHRAP" Brand Pipe Protection Tape requires no special application technique or equipment and is always ready for use. "SCOTCHRAP" is available from your 3M supplier, or write: Electrical Products Division, 3M Company, 900 Bush Ave., St. Paul 6, Minn.

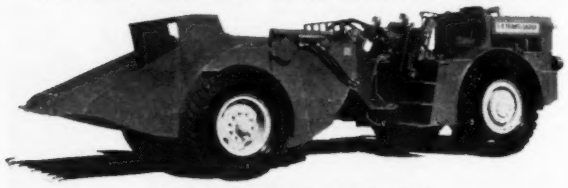
"SCOTCHRAP" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN.

3M MINNESOTA MINING & MANUFACTURING CO.

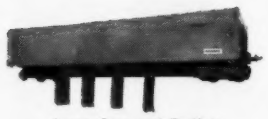
▲ For more details circle **NED-44 L1** on enclosed inquiry slip ▲

Standard and Special Haulage and Materials Handling Equipment . . .

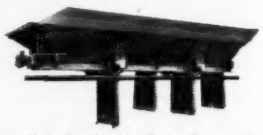
DESIGNERS, ENGINEERS, BUILDERS—COMPLETE SERVICES



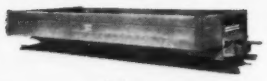
S-D TRANSLOADER: self-loading transport that does all three—LOADS, HAULS, and DUMPS!



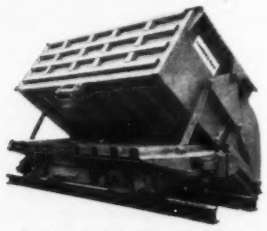
Large Cars and Trailers



Cars that Overlap in Train for continuous, automatic loading and dumping

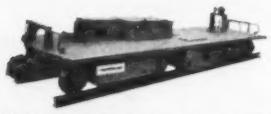


Rotary

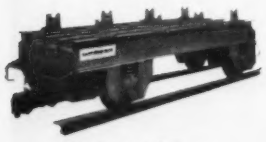


A special S-D Car—eight-wheels

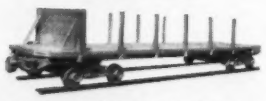
Hydraulic Cars for independent or simultaneous dumping



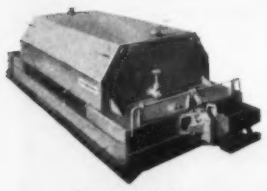
S-D Brakeman safety control car featuring magnetic braking



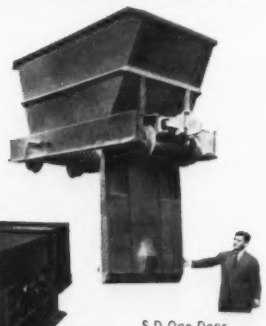
S-D Ingot Car



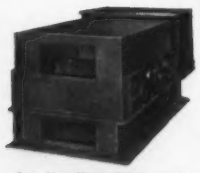
Supply and Materials Handling Car



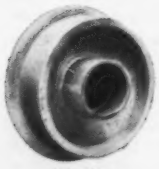
Special Tank Car



S-D One-Door Overlapping Dumper



Car Handling Equipment



Wheels

WRITE FOR COMPLETE INFORMATION AND LITERATURE

SANFORD-DAY

KNOXVILLE, TENNESSEE

Mine and Industrial Car Builders for 60 Years

SANFORD-DAY CORPORATION, 616 Dale Ave., Knoxville, Tenn.

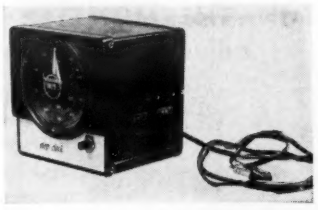
▲ For more details circle **NED-45 L1** on enclosed inquiry slip ▲

MASONRY FASTENING TOOL is reversible for use with a drill

Pin Boy hammer-driven masonry fastening tool directs hammer striking energy straight down, "focusing" the force to drive special fastening pins into steel, concrete, and similar tough materials. Unit has a reversible barrel which allows the use of a masonry drill. Change from pin-driving to drilling position is quickly made. Hardened alloy pins are offered in various sizes and styles, including those used in wire-loop pinning applications. Depth gage marks on barrel aid proper driving of pins. • **Remington Arms Co.**, 939 Barnum Ave., Bridgeport 2, Conn.

▲ For more details circle **NED-46 L1** on enclosed inquiry slip ▲

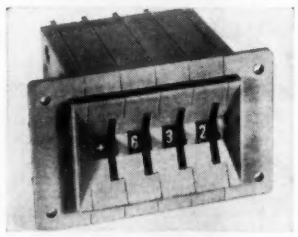
AUTOMATIC STOP CLOCK can be operated by remote means



In Series ESC automatic stop clock, a cone clutch engages the pointer mechanism with the synchronous motor in 20 to 40 milliseconds. No dial compensation is required for pull-in lag. Clock measures time intervals down to 1/100 sec and can be started, stopped, and reset by remote means. Automatic test equipment, production control, time and motion studies, and research are typical applications. Panel mount, 3-in. digital readout, and nixie readout versions are available. Price of 115 v, 60-cycle ac model is $68.50; the 220-v model is $71. • **Industrial Timer Corp.**, 1407 McCarter Highway, Newark 4, N. J.

▲ For more details circle **NED-47 L1** on enclosed inquiry slip ▲

DIGITAL THUMBWHEEL SWITCH used in computers and meters



In-line digital presentation for easy read-in or read-out is featured by the Decaswitch low-cost digital thumbwheel switch. Unit is suited for use in a variety of computers, meters, power supplies, decade boxes, and other applications requiring selection or conversion. Up to 15 self-aligning interlocked sections can be stacked in a panel slot only 8 x 1 9/16 in. Switch sections are available in single-pole 10-position, single-pole 11-position, plus/minus, binary, and two-pole 5-position models. • **Siegler Corp.**, Magnetic Amplifiers Div., 632 Tinton Ave., New York 55, N. Y.

▲ For more details circle **NED-48 L1** on enclosed inquiry slip ▲

no more cold feet with **Electro-Mat**

ELECTRIC FLOOR MAT

Production line and office workers can now work in absolute comfort

The new low-priced ELECTRO MAT throws off a gentle warmth that keeps workers healthy, happy and comfortable. 14" x 21" portable foot warmer is safe and economical . . . consuming less power than a 100 Watt light bulb. It is made of high quality oil-resistant rubber.

Attention Employers

Increase the efficiency of your employees and help prevent colds which cause absenteeism. Equip each employee with an Electro Mat.

IMPORTANT SAVING: If 6 or more Electro Mats ordered price is only $7.95 each.
Please send me: ☐ Electro Mat at $8.95 each.
Enclosed is my check ☐ money order ☐
☐ C.O.D. I am enclosing $1.00. Will pay postman balance of $7.95 plus C.O.D. fee.

Name_____
Street_____ Zone_____
City_____ State_____

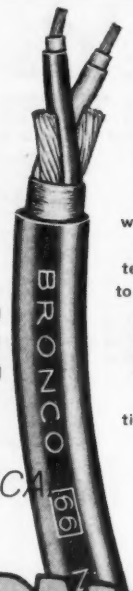
10 Day Money Back Guarantee
Interstate Rubber Products Corp., Dept. 303
906 Avila St., Los Angeles 12, California
9108 Meyers Rd., Detroit 28, Michigan

Mail check or money order today Only **$8.95** Delivered

Dealer Inquiries Invited.

▲ For more details circle **NED-49 L1** on enclosed inquiry slip ▲

FOR YOUR OWN HOME WORK-SHOP A **FREE** *OF THE FINEST ELECTRICAL CORD MADE*



You'll never realize how tough it is . . . you'll never know how flexible and easy-to-handle Bronco 66 Certified is until you try it yourself. We want you to become personally acquainted with the tough, resistant 67.32% Neoprene jacket — highest content in the industry. We want you to see the branding that's molded in so it won't rub off. We're betting a usable, useful sample that once you've personally tested Bronco 66 Certified, this will be the cord you'll specify in your factory. All you have to do is write us on your company letterhead. Please give your title and function.

SAMPLE

BRONCO *Certified* 66 NEOPRENE

sold nationally by electrical wholesale distributors

THIS OFFER IS LIMITED TO THE FIRST 1,000 REQUESTS WE RECEIVE.

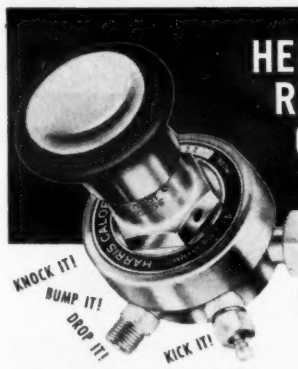
WESTERN INSULATED WIRE COMPANY, Los Angeles 58, California

▲ For more details circle **NED-50 L1** on enclosed inquiry slip ▲

HERE'S A NEW REGULATOR THAT CAN TAKE IT!...

AND DISH IT OUT ACCURATELY, TOO!

3605-HG



Knock it, bump it, drop it, kick it . . . you can afford not to be careful with Harris Model 29 Gaugeless Regulators. And yet, while you attempt to avoid such treatment, nevertheless the 29 Gaugeless assures you trouble-free performance . . . reads more accurately than most two-stage gaugeless regulators!

HERE'S WHY:

- **Working pressures** deeply embossed in the bonnet are easy to read—calibrated at 10 lb. intervals for Oxygen; 2 lb. intervals for Fuel Gas.
- **Cylinder content indicator** is calibrated at ¼-cylinder graduations, from full to empty . . . is built snugly within the protective circle of the cylinder's circumference.
- **No exposed slots** in the bonnet . . . impossible for dirt and moisture to reach pressure spring and moving parts.
- **Tamper-proof** safety built within the regulator.

MODEL NO.	TYPE	DELIVERY RANGE	CU. FT./HOURS MAXIMUM FLOW	CGA CONNECTION
29	Oxygen	0-100	1600	540
29-P	Acetylene Propane	0-15 0-26	@ 15 lbs. 350 @ 26 lbs. 400	510
29-D	Acetylene Propane	0-15 0-26	@ 15 lbs. 350 @ 26 lbs. 400	Alt. 300
29-ER	Carbon Dioxide	0-26	400	320

LOW PRICE $24.00

HARRIS

THE HARRIS CALORIFIC COMPANY
5501 CASS AVENUE • CLEVELAND 2, OHIO

▲ For more details circle **NED-51 L1** on enclosed inquiry slip ▲

Armourclad®
Resin Fibre Discs

BEST FOR GRINDING

Gives you
- Up to 25% longer life.
- Improved stability and heat resistance.
- Sharper, quicker grinding operations.

Available in 8 different grits.

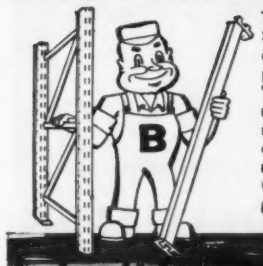
FREE! RESIN FIBRE DISC BULLETIN
Write Coated Abrasives Division
Armour Alliance Industries
16123 Armour Street, N.E.
Alliance, Ohio

the new
Armour and Company

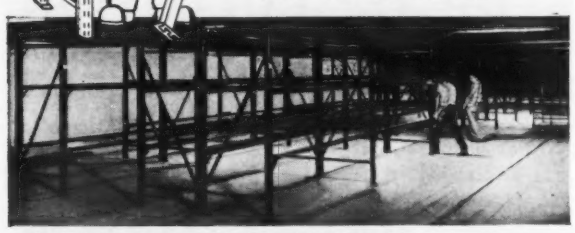
▲ For more details circle **NED-52 L1** on enclosed inquiry slip ▲

STURDY ADJUSTABLE STORAGE RACKS

ONLY 2 BASIC PARTS



These two basic parts, Frames and Stringers standardized in a full range of sizes and capacities, plus the simple positive locking connection, make "RIDG-U-RAK" adaptable to any material storage need. These all steel racks erect faster — just slide, slot and lock — no tools — no bolts — no nuts — no screws — no wedges. Get the complete story on the complete line — File Folder 5-K.



BERNARD GLOEKLER NORTH EAST CO., NORTH EAST, PA.

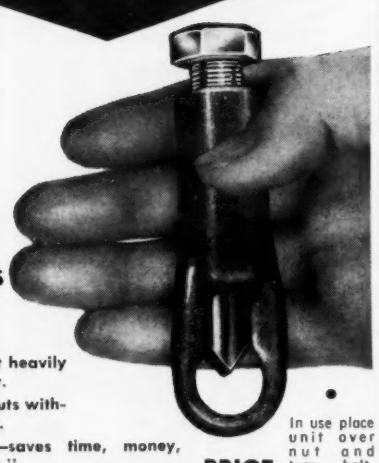
Ridg U rak

▲ For more details circle NED-53 L1 on enclosed inquiry slip ▲

Borroughs QUALITY

NUT BUSTER

Quickly Removes Rusted or Frozen Nuts Without Damage to Threads or Bolts



- Any one can split heavily rusted nuts easily.
- Cuts up to 100 nuts without resharpening.
- Handy to use—saves time, money, "busted knuckles."
- Provides years of heavy duty service.
- Unit has 3½" cast steel body with hex shaft with ¾" opening; and cutter.

In use place unit over nut and turn bolt-end of cutter.

PRICE $3.95

BORROUGHS TOOL & EQUIPMENT
Corporation—Dept. NED-1161, 2429 N. Burdick, Kalamazoo, Michigan

▲ For more details circle NED-54 L1 on enclosed inquiry slip ▲

NEW! ARMOUR TYPE M RUBWET®

BEST FOR WET SANDING

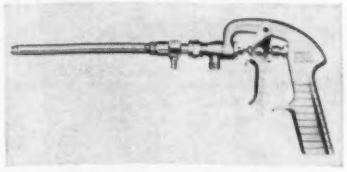
Gives you faster, sharper, cutting action, longer life. Use on wood, metal, plastic, primers, color coats.

FREE: RUBWET BULLETIN
Write Coated Abrasives Division
Armour Alliance Industries
16123 Armour Street, N.E.
Alliance, Ohio

the new Armour and Company

▲ For more details circle NED-55 L1 on enclosed inquiry slip ▲

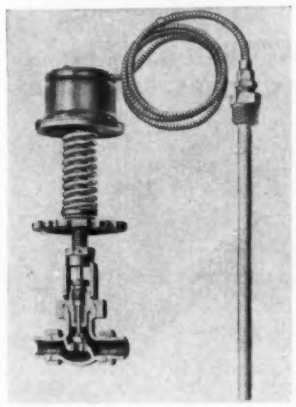
DEGREASING SPRAY GUN
penetrates and removes dirt



Cleaning and degreasing solutions used with the No. 6960-22 GunJet spray gun are delivered in a low capacity, hard-hitting spray that removes dirt and penetrates built-up films. Rinsing requires minimum use of water. Pneumatic gun operates efficiently on 20 to 100 psi air pressure, drawing liquid through siphon action. Liquid capacity is varied by a knurled lock ring. Gun is trigger controlled, 14 in. long, and weighs 14 oz. • **Spraying Systems Co.**, 3211 Randolph St., Bellwood, Ill.

▲ For more details circle NED-56 L1 on enclosed inquiry slip ▲

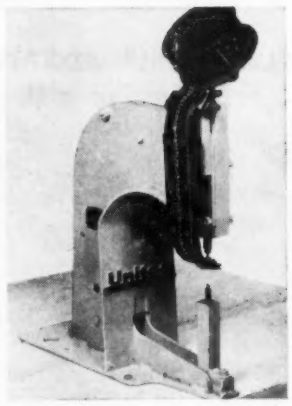
TEMPERATURE REGULATOR
controls small, low pressure loads



Sizes up to 2 in. are available in the Type T2 direct-operated temperature regulator, equipped with bronze body and union ends. Responsive vapor tension thermostats are supplied for all temperature ranges between 50 and 250° F. Device is designed to control small loads with differential between inlet and outlet of less than 3 psi. • **Spence Engineering Co.**, 45 Grant St., Walden 2, N. Y.

▲ For more details circle NED-57 L1 on enclosed inquiry slip ▲

EYELETTING MACHINE
converts to automatic operation



Basic Model A eyeletting machine can be converted in the field in two steps for automatic feed and motorized operation. First conversion adds a hopper and raceway to the machine for automatic feeding of eyelets. Second step substitutes an inexpensive 1/6-hp electric motor drive for original foot power. Basic machine will set all 65 diameters and lengths of eyelets in company's Standardized series, as well as larger sizes, in metals, paper, fabrics, plastics, and other materials. Basic unit costs less than $100; with both conversions, $295. • **United Shoe Machinery Corp.**, Fastener Div., Shelton, Conn.

▲ For more details circle NED-58 L1 on enclosed inquiry slip ▲

NEW ARMOUR NO-LOAD®

BEST FOR SANDING

FREE Informative bulletin containing No-Load Sanding Tips

No-Load Cabinet and Finishing paper stops clogging without contaminating surface being sanded. Gives extra flexibility. Conforms to surface.
Use on metals • fibreglass • wood • paint.

Write Coated Abrasives Division, Armour Alliance Industries, 16123 Armour St., N.E., Alliance, Ohio

the new Armour and Company

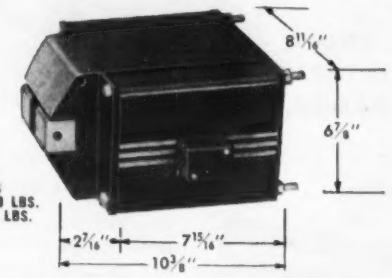
▲ For more details circle NED-59 L1 on enclosed inquiry slip ▲

TROMBETTA SOLENOID CORP.

MILWAUKEE WISCONSIN U.S.A.
329 N. Milwaukee Street Phone BRoadway 1-8347

SOLENOIDS

Give Same Performance for ALL Frequencies and Voltages • AC or DC!



P-300 Pull Type and Q-300 Push Type solenoids have the same characteristics for all voltages and frequencies. Machines designed for 60 cycle operation can use the same solenoid for 25 cycle operation, or any other frequency. DC solenoids have a maximum pulling capacity 4 times that of AC solenoids. See below.

	AC	DC
LINES	P-300 & Q-300	P-300 & Q-300
Max. pull at 85% voltage	¾ to 150 lbs.	3 to 600 lbs.
Voltage, AC or DC	All voltages up to 750 volts	
Stroke	⅜" stroke to 5" stroke	
Frequency	All frequencies from 16⅔ to 66⅔	

IN 1924 MR. TROMBETTA GAVE THE WORLD THE COMMERCIAL SOLENOID

▲ For more details circle NED-60 L1 on enclosed inquiry slip ▲

CONVEYOR CHAINS and PARTS

New C-30 Steel Heat Treated Chain is a conveyor in itself. Ideal for moving cases, cans, cartons, parts, etc., through several operations, such as washing, packing, heat-treating, drying, filling, etc.

BEEF CLASS FORGED PINTLE CHAIN. Heavy duty detachable heat-treated chain in large and small size for unusual wear applications. L. RAM-52 1½" pitch. R. RAM 52-K-73 attachment.

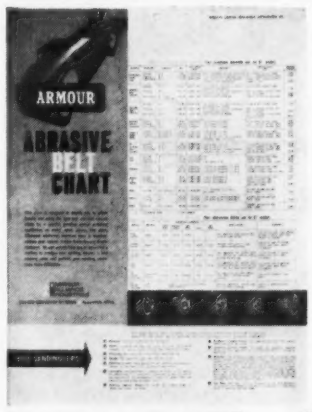
CAST SPROCKETS for above chain. If you use quantities of sprockets in your operations, let us quote you on your specifications.

Special forged chain made to your requirements.

ROBERT A. MAIN & SONS, INC.

Main & New Sts., Wyckoff, N. J. Phone: TWinbrook 1-2010

▲ For more details circle NED-61 L1 on enclosed inquiry slip ▲



EXTRA! CONTAINS MANY HELPFUL BELT SANDING TIPS
Write: Coated Abrasives Division, Armour Alliance Industries, 16123 Armour Street, N.E., Alliance, Ohio.

ABRASIVE BELT APPLICATION WALL CHART

Free

17" x 13" Chart shows right abrasive for your operation . . . most efficient belt speeds, lubricants and contact wheels for: Steel • Stainless Steel • Aluminum • Copper • Cast Iron • Titanium • Inconel • Glass • Plastic • Wood

the new Armour and Company

▲ For more details circle NED-62 L1 on enclosed inquiry slip ▲

PROTECT THOSE EYES

FROM DUST, FUMES, GASES, SMOKE

Special goggles provide safety for workmen, relieve tired eyes.

FOG-PROOF GAS-TIGHT GOGGLES

Hug face securely but comfortably. Can be worn with any respirator. Fog is removed from the lenses by an easy nod or shake of the head. A few drops of water on inner wall of lens do the trick.

COVER goggles and respirators are known world over for reliability. Send for literature.

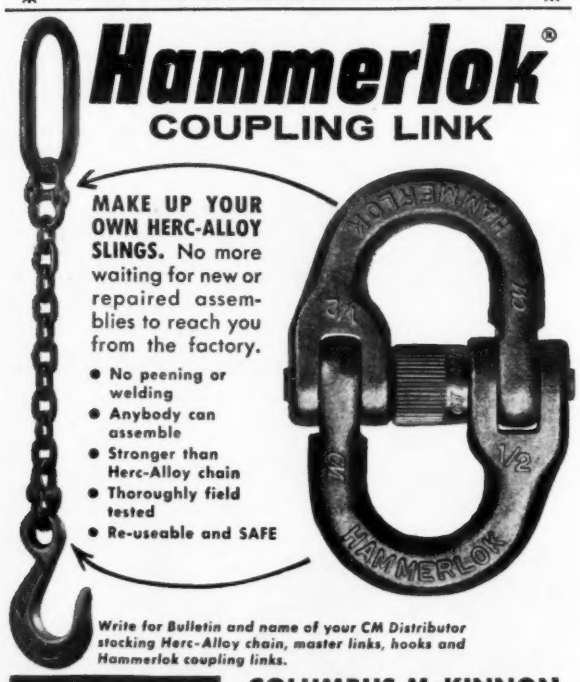
See your safety equipment supplier or order your sample direct — $2.00 postpaid. Write today.

H. S. COVER
Dept. 1105 South Bend 14, Indiana

"Respirators for Industry Since 1894"

For more details circle NED-63 L1 on enclosed inquiry slip

Hammerlok®
COUPLING LINK



MAKE UP YOUR OWN HERC-ALLOY SLINGS. No more waiting for new or repaired assemblies to reach you from the factory.

- No peening or welding
- Anybody can assemble
- Stronger than Herc-Alloy chain
- Thoroughly field tested
- Re-useable and SAFE

Write for Bulletin and name of your CM Distributor stocking Herc-Alloy chain, master links, hooks and Hammerlok coupling links.

RUGGED · DURABLE CM CHAIN

COLUMBUS McKINNON CHAIN DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
NEW YORK (Mountainside, N. J.)
CHICAGO • CLEVELAND • SAN FRANCISCO
In Canada: Columbus McKinnon Limited, St. Catharines, Ontario

For more details circle NED-64 L1 on enclosed inquiry slip

stop "Litterbugs" fast!

INSTALL MODERN *San-Equip* WASTE RECEPTACLES

Here is a completely new design in waste receptacles. For use in any location, particularly where appearance is important. The San-Equip Waste Receptacle offers these outstanding features:

- Easy to install—securely fastened to pole or wall
- Free from vandalism
- Hand-high to encourage use
- No handling to empty—saves time
- No damage through handling—low maintenance cost
- Weather-tight container protects waste
- Moderate in cost

Send This Coupon Today!

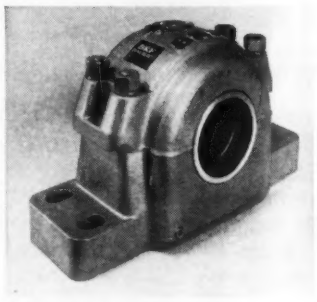
VEGA INDUSTRIES, INC.
656 E. Brighton Avenue
Syracuse 5, New York

Please send detailed information on the new San-Equip Waste Receptacle.

NAME .....
ADDRESS .....
CITY ..... STATE .....

For more details circle NED-65 L1 on enclosed inquiry slip

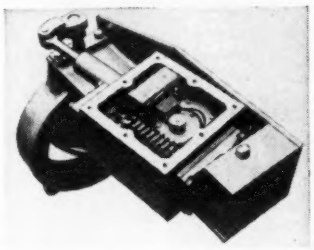
SPLIT PILLOW BLOCKS
have heavy cast base, lifting grips



Dyna-Block split pillow blocks utilize either SKF 22200 or heavier 23200 Series spherical roller bearings. These improved units have a heavy cast base, lifting grips for easy cap removal, large oil reservoirs and seal drains, and triple ring seals. Interchangeable with the earlier SAF Series, units are offered in either direct shaft or adapter mountings in shaft sizes from 3.937 to 8.661 in. and 3 7/16 to 7 15/16 in. Units are mounted with four heavy-duty bolts. • **SKF Industries, Inc.**, Hornell Div., Front Street & Erie Avenue, Philadelphia 32, Pa.

For more details circle NED-66 L1 on enclosed inquiry slip

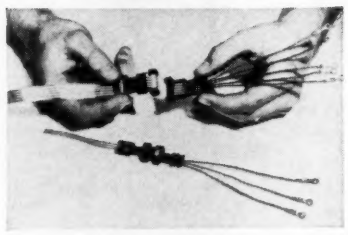
HEAVY DUTY ACTUATOR
remotely operates valves, equipment



Manually operated valves, dampers, variable speed drives, and other equipment in the field can be converted to remote or automatic operation with the DL-66 heavy-duty actuator. It provides up to 1200 lb of thrust in 6 or 12-in. travel strokes. Unit weighs 26 lb, is rated 1/15 hp, has bracket or saddle mounting, and is available for 120 or 240-v single-phase ac operation. Three-phase motor and starter are available. • **General Controls Co.**, Tork-Master Div., 801 Allen Ave., Glendale 1, Calif.

For more details circle NED-67 L1 on enclosed inquiry slip

FLAT CABLE ADAPTER
for joining with round wire



Pos-E-Flex flat cable adapter simplifies application of flat cable to existing electrical and electronic equipment using conventional round wire. It is used to terminate flat cable runs at conventional terminal boards or strips and to facilitate flat cable runs under rugs or tile, in chassis, and along walls in low voltage control wiring, intercommunication systems, and remote control wiring. • **Thomas & Betts Co.**, 36 Butler St., Elizabeth 1, N. J.

For more details circle NED-68 L1 on enclosed inquiry slip

MAKE EFFICIENT SYSTEMS from BUSCHMAN IN-STOCK units

Buschman standardized portable conveyors save far more than they cost, handling all kinds of packages, in large and small operations. Select wheel, roller, belt components from stock, to install your own conveyor line. Or build your own Overhead Trolley Cable Conveyor from Buschman standardized units. Consult our agent or write direct.

Complete Conveyor Systems for all Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities; See Yellow Pages

Buschman CONVEYORS

The E. W. Buschman Company, 4482 Clifton Avenue, Cincinnati 32, Ohio

For more details circle NED-69 L1 on enclosed inquiry slip

STOP AIR POLLUTION
and Save Fuel Oil Dollars with SOLAR FURNACE KLEEN

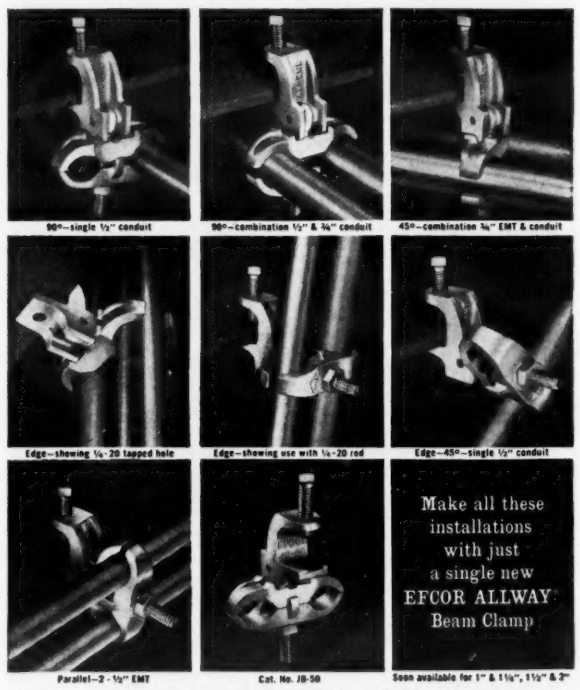
Solar Furnace Kleen fuel oil additives are warranted to perform as follows:

1. Reduce smoke and poisonous gases
2. Dissolve, disperse and burn sludge
3. Reduce or eliminate tube pitting and corrosion due to sulphur and vanadium
4. Reduce or prevent fuel tank corrosion
5. Clean valuable burner and boiler parts

Write for documented reports on the use of Furnace Kleen by Connecticut Industry.

SOLAR SALES CORP. 24 Taylor Place, Westport, Conn.
CHEMICAL CO. 35 Lackawanna Place, Bloomfield, N. J.

For more details circle NED-70 L1 on enclosed inquiry slip



Most versatile beam clamp ever! Each clamp holds either one or two conduits—each conduit grip takes two sizes! Clamping section can be swiveled to any plane, all angles—becomes a 90° edge or parallel clamp... whatever the installation calls for. No need to stock a variety of types. One EFCOR ALLWAY Beam Clamp does it all. Write for literature:

Efcor *pat. pend.

ELECTRICAL FITTINGS CORPORATION, EAST FARMINGDALE, N.Y.

For more details circle NED-71 L1 on enclosed inquiry slip

To Meter Flow
of hot, viscous fluids
– with no pressure taps

- Heavy fuel oil
- Hot asphalt
- Tar
- Synthetic dope
- Hot sulfur
- Slurries

Foxboro Target Flow Transmitter

Ideal for those tough-to-measure fluids — including non-conductive liquids and heavy gases. The reliable Foxboro Target Flow Transmitter lets you measure hydrocarbons and viscous, toxic fluids to 750F. Here is an accuracy and economy previously unobtainable for metering viscous liquids. No pressure taps to plug . . . no stuffing boxes to leak . . . this meter needs virtually no servicing. (Pneumatic or electronic output.)

For more information on how the Foxboro Target Flow Transmitter solves "sticky" flow problems, write for Bulletin 13-31. The Foxboro Company, 6611 Neponset Ave., Foxboro, Massachusetts.

Sizes: ¾, 2, 3, and 4 inches
Flow Range: 10 to 500 gpm
Temperatures: to 750F
Pressures: to 1500 psi
Calibrated Accuracy: ±0.5 percent of span

FOXBORO REG. U. S. PAT. OFF.

For more details circle NED-72 L1 on enclosed inquiry slip

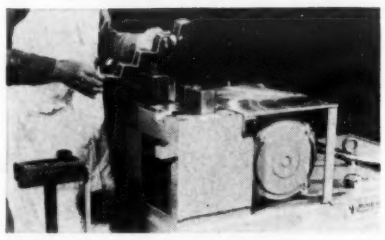
For more details circle NED-73 L1 on enclosed inquiry slip

SELF-RELEASING SLING HOOK
automatically unhitches bundles

Choker hook used with Gripper metal mesh slings is self-releasing, eliminating the need for a rigger to unhitch the sling when working in close quarters. With a load in the sling, tension holds the sliding choker which engages the female handle of the sling. When the load is lowered and tension is removed, the weighted arm of the upright choker hook falls, disengaging the handle. Sling is then easily pulled from under the load. • **Cambridge Wire Cloth Co.**, 1000 Choptank Rd., Cambridge, Md.

For more details circle NED-76 L1 on enclosed inquiry slip

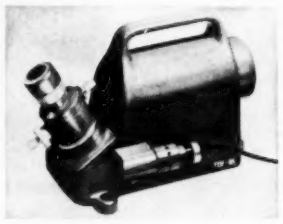
BENDING BRAKE
handles 1/4 x 2 3/4 in. flat stock



Flat cold rolled steel stock up to 1/4 x 2 3/4 in. can be formed into many part shapes by this 7 1/2-hp, 2000-psi hydraulic ram-type bending brake. Pedestal control station electrically actuates the machine which will operate at up to 50 cycles per minute. Foot switch frees both hands for workpiece handling. The off-set horizontal brake produces zero radius bends with consistent accuracy. Crank adjustment of the tool holder sets the degree of bend. Dovetail mounted tools speed setup and changeover. • **Pines Engineering Co.**, 601 Walnut St., Aurora, Ill.

For more details circle NED-77 L1 on enclosed inquiry slip

BIAXIAL MEASURING DEVICE
ocular scale is diagonal



Diagonal direction of the minute scale in the ocular of this Leitz Auto-Collimator allows measuring in two axial planes. Thus, only one measuring motion furnishes readings in both coordinates, without rotating the ocular or the telescope tube. All readings—for minutes as well as half-seconds—are obtained within the same ocular without shift of operator's eye. Device has a cast-iron housing with handle, 20-in. folded beam, oversize lens aperture, and a concealed hairline cross. • **Opto-Metric Tools, Inc.**, 139 Varick St., New York 13, N. Y.

For more details circle NED-78 L1 on enclosed inquiry slip

PRODUCTION-MINDED and PRECISE

When the name plate states "It's a HAMILTON TOOL," you can "Use it with confidence."

The NEW Hamilton-Varimatic,® a radial type drilling machine with super sensitive feed, produces small holes (to 5/16" dia.) with instrument precision — at production speeds.

Spindle speeds are infinitely variable. A simple adjustment of the graduated hand wheel selects any desired spindle speed between 840 and 2700 R.P.M., or between 2900 and 9300 R.P.M.

It is available with conventional base and work table, or with "tool-room base" and compound table as shown at the left. Also offered in multiple spindle designs.

2959

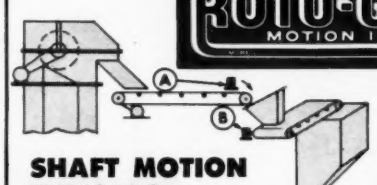
HAMILTON TOOL

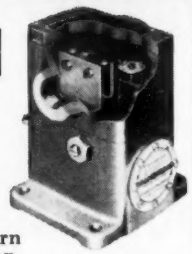
GET THIS
Bulletin No. 2959 provides complete description, includes sectional drawing, lists features, gives specifications. It's FREE. Write for it now!

THE HAMILTON TOOL COMPANY
901 HANOVER STREET HAMILTON, OHIO

For more details circle NED-80 L1 on enclosed inquiry slip

ROTO-GUARD
MOTION INDICATOR

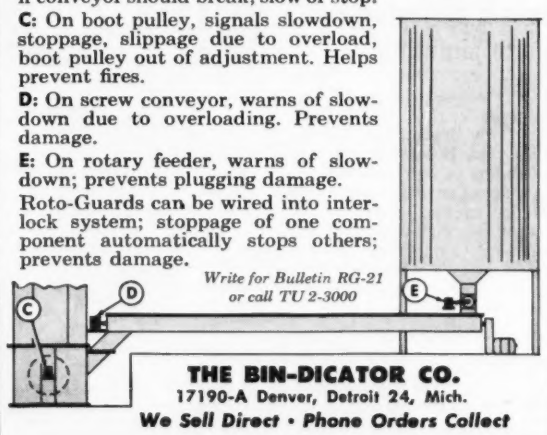




SHAFT MOTION INDICATOR
PROTECTS MACHINERY BY INDICATING STOPPAGE DUE TO OVERLOADING OR MALFUNCTION

A and B: On end return idlers, warn if conveyor should break, slow or stop.
C: On boot pulley, signals slowdown, stoppage, slippage due to overload, boot pulley out of adjustment. Helps prevent fires.
D: On screw conveyor, warns of slowdown due to overloading. Prevents damage.
E: On rotary feeder, warns of slowdown; prevents plugging damage.
Roto-Guards can be wired into interlock system; stoppage of one component automatically stops others; prevents damage.

Write for Bulletin RG-21 or call TU 2-3000



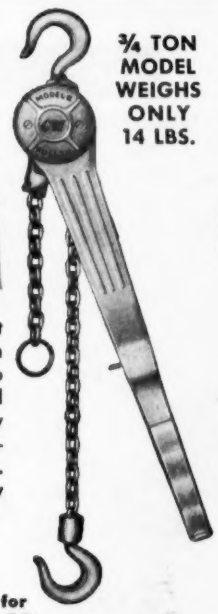
THE BIN-DICATOR CO.
17190-A Denver, Detroit 24, Mich.
We Sell Direct • Phone Orders Collect

For more details circle NED-74 L1 on enclosed inquiry slip

LIFTS and PULLS at ANY angle . . .

Move machinery, pull boiler tubes, join belts, set pipe, lift motors—for 1001 uses pick up a

CM PULLER



3/4 TON MODEL WEIGHS ONLY 14 LBS.

• Operated by a ratchet handle requiring no more effort than an automobile jack. Objects up to 12,000 lbs. can be lifted or pulled . . . vertically, horizontally or at any angle. Anyone can operate. Automatic brake holds loads at any point. Inexpensive. Sturdy. Safe. CM-Alloy flexible welded load chain.

Send for PULLER Literature Illustrated and with prices.

Capacities: 3/4 to 6 ton

CM HOISTS
CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: COLUMBUS McKINNON LIMITED, ST. CATHARINES, ONTARIO

For more details circle NED-81 L1 on enclosed inquiry slip

To Meter Flow
of minute fluid quantities

• Anti-oxidants
• Odorants
• Defoamers
• Hydrogen
• Hydrogen sulfide
• Soap solution
• Water
• Air

Foxboro Integral Orifice d/p Cell* Transmitter

The versatile Foxboro Integral Orifice d/p Cell Transmitter measures liquid flows as small as 0.005 gpm, gas flows as small as 0.002 scfm — with the unmatched accuracy, sensitivity, and response of standard d/p Cell transmitters. You will find it useful in research, pilot plants, industrial flow control — wherever precise control of very small flow is needed. A set of precisely machined orifices — each easily interchangeable with the others — is provided. (Pneumatic or electronic output.)

For more details, write for Bulletin 13-34. The Foxboro Company, 6611 Neponset Ave., Foxboro, Massachusetts.

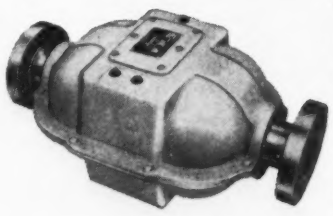
*Reg. U. S. Pat. Off.

Range: to 850 inches H_2O differential
Flow Range: Water — 0.005 to 8.0 gpm; Air — 0.002 to 35.0 scfm
Temperatures: to 250F
Pressures: to 6000 psi
Accuracy: ±0.5 percent of span

FOXBORO REG. U. S. PAT. OFF.

For more details circle NED-75 L1 on enclosed inquiry slip

To Meter Flow
of difficult fluids



• Latex
• Rayon viscose
• Phosphate slurry
• Rubber copolymer
• Sulfuric acid
• Sodium hydroxide
• Starch solution

Foxboro Magnetic Flow Transmitter

With a Foxboro Magnetic Flow Transmitter you can measure virtually any conductive liquid — from clear water to abrasive, lumpy slurries and corrosive acids. The meter has no flow restriction — nothing to foul or plug up. Instead, two electrodes flush-mounted in the wall of an insulated pipe section — in combination with a Foxboro Dynalog* Recorder — measure flow to an accuracy of ±1 percent of full scale.

For more details on how the Foxboro Magnetic Flow Transmitter can handle your "impossible" metering problems, write for Bulletin 20-14. The Foxboro Company, 6611 Neponset Avenue, Foxboro, Massachusetts.

*Reg. U. S. Pat. Off.

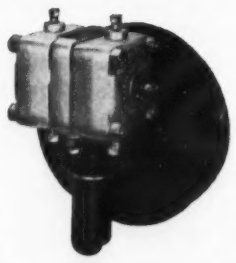
Sizes: 0.1 to 72* inches
Flow Range: 0.1 to 65000 gpm*
Temperatures: to 300F
Pressure: to 240 psi*
Accuracy: ±1 percent of full scale

FOXBORO REG. U. S. PAT. OFF.

*Larger sizes, higher ranges and pressures available on request.

For more details circle NED-79 L1 on enclosed inquiry slip

To Meter Flow
of gases – accurately



• Natural gas
• Hydrogen
• Methane
• Ethylene
• Sulfur dioxide
• Ammonia

Foxboro Diaphragm Meter

The precise, responsive, mercuryless Foxboro Diaphragm Meter — calibrated to an accuracy of ±0.25 percent — lets you measure any gas with unsurpassed precision. It meters liquids equally well. This kind of versatility makes the Foxboro Diaphragm Meter your ideal choice to standardize metering in chemical plants.

For complete details on the "cash register" accuracy of the Foxboro Diaphragm Meter, write for Bulletin 7-15. The Foxboro Company, 6611 Neponset Ave., Foxboro, Massachusetts.

Range: to 200 inches H_2O differential
Temperatures: —30 to +230F
Pressures: to 2000 psi (optional to 2500 psi)
Calibrated accuracy: ±0.25 percent of full span

FOXBORO REG. U. S. PAT. OFF.

For more details circle NED-82 L1 on enclosed inquiry slip

How to Select a Steam Cleaner ... and get the features you want

Compare Turbo With Any Steam Cleaner

	Turbo	Cleaner "J" 1250AD	Cleaner "C" 150	Cleaner "M" 130
Water-jacketed combustion chamber and preheater	Yes	No	No	No
Hot water fill for mixing detergents	Yes	No	No	No
Steam jet agitator for solution tank	Yes	No	No	No
BTU input	386,000 BTU	440,000 BTU	425,000 BTU	450,000 BTU
Remote nozzle control to stop and restart machine	Yes	Extra cost	Extra cost	Extra cost
Rubber tires	Yes	No	No	No
Water capacity	150 GPH	120 GPH	150 GPH	130 GPH
Low water cutoff	Yes	No	No	No
Water conditioner standard equipment	Yes	No	No	No

And Turbo Steam Cleaners are competitively priced. Write for bulletin and prices.

TURBO STEAM CLEANERS

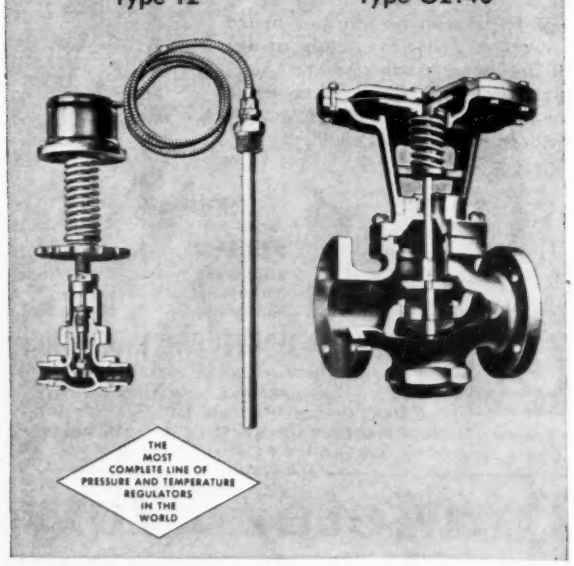
TURBO MACHINE COMPANY, LANSDALE, PA.

▲ For more details circle **NED-87 L1** on enclosed inquiry slip ▲

VALVE TIPS:

New Temperature Regulating Valves

Type T2 Type G2T40



These new additions to Spence's complete line of automatic temperature regulators are designed for very low pressure differentials. Specifically when the allowable steam pressure drop is less than 3 psi, the G2T40 or T2 are recommended.

Type G2T40 is a single seated pilot operated regulator designed for operation by air or water and is available in sizes 2" through 8". Type G22 is also available in 10" and 12" sizes.

Type T2 is a direct operated regulator and is operated by a sensitive vapor tension thermostat that responds quickly to small temperature changes. Type T2 is available in sizes through 2".

For information on Spence's complete line of Automatic Temperature Regulators write for Bulletin IV 1014.

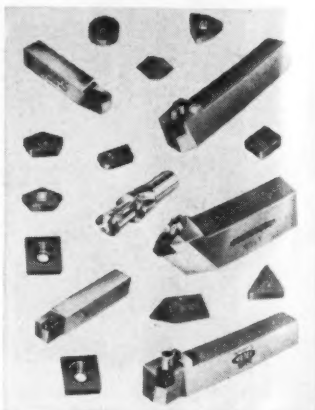
SPENCE ENGINEERING COMPANY, INC.
WALDEN 1, NEW YORK
Paulsen Spence, P. E., President

Spence

SE-151

▲ For more details circle **NED-88 L1** on enclosed inquiry slip ▲

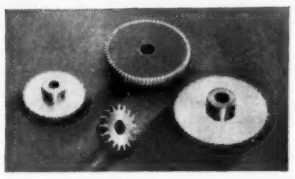
TITANIUM CARBIDE TOOLS cut most metals at high speed



Tools made of Grade 3-AT titanium carbide will cut most steels, stainless steels, cast iron, and nonferrous materials. These turning, boring, milling, and other tools can be run at higher surface feeds and speeds than conventional carbide, with improved surface finish. Average life of 3-AT is 10 to 15 times the life of present carbide grades. Indexable throw-away or regrindable inserts in standard and special blank sizes are available as brazed-on single-point tools, or for use in mechanically held tool holders. • **Willey's Carbide Tool Co.**, 1340 W. Vernor Highway, Detroit 1, Mich.

▲ For more details circle **NED-89 L1** on enclosed inquiry slip ▲

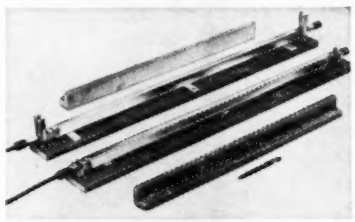
STOCK PRECISION GEARS in 24 to 200 diametral pitch ranges



Stock precision gears, made to AGMA and Precision 1, 2, and 3 standards include diametral pitches of 24, 32, 48, 72, 80, 96, 120, and 200. They are available in stainless steel, aluminum, nylon, and linen phenolic, in either split or clamp type hubs. Special gears are also made to NASA standards. • **Tech-Ohm Electronics, Inc.**, 36-11 33rd St., Long Island City 6, N. Y.

▲ For more details circle **NED-90 L1** on enclosed inquiry slip ▲

THERMOPLASTIC SHEET HEATER handles 1/16 to ¾-in. gages



Top and bottom rectangular aluminum heating bars with metal-encased electrical elements and two support angles comprise this heating device for making single and double bends in thermoplastic sheet. Bars with ⅜, ½, ¾, and 1-in. heating faces accommodate sheet gages from 1/16 through ¾ in. Each bar has two insulated handles, 10 ft of 2-wire electrical cord, and a plug. A marking crayon is also provided. Models for 36 and 54-in. wide sheets are available and operate on 115-v ac. • **Kamweld Products Co.**, 932R Washington St., Norwood, Mass.

▲ For more details circle **NED-91 L1** on enclosed inquiry slip ▲

turn to von weise

Fractional H.P. Gearmotors for Every Purpose

STOCK MODELS or SPECIAL DESIGN

von Weise is one of America's largest and most modern manufacturers of dependable gearmotors ¼ H.P. and less. von Weise stock gearmotors are available to fit most requirements. For special needs, let our engineers become part of your design team. Send us your specifications or write for descriptive literature.

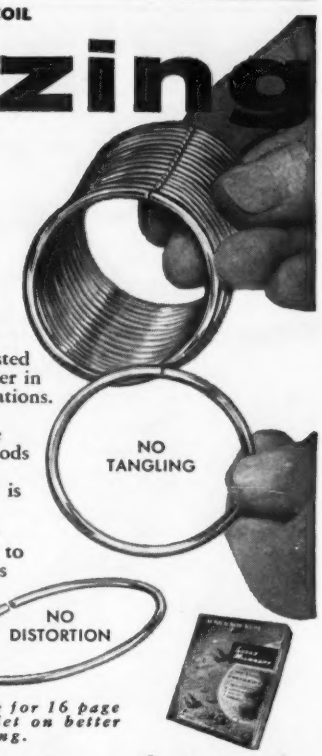
von Weise Gear Co.
9349 Watson Industrial Park
St. Louis 26, Mo.

▲ For more details circle **NED-92 L1** on enclosed inquiry slip ▲

NO TANGLE-NOTCH COIL

brazing rings

Snap OFF COIL PLACE ON PART



Preformed No Tangle-Notch Coil Rings end wasted time in placing silver solder in position for brazing operations. Rings fit quickly and accurately on parts to be joined. Cut and try methods and resulting rejects are eliminated. Silver solder is actually metered to flow evenly — positive bond. Ring Diameters from ¼" to 12" — +.001. Wire Sizes .020 to .093.

See our catalog in Sweets Product Design File 7/LU

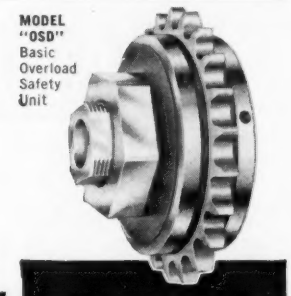
Write for 16 page booklet on better brazing.

LUCAS-MILHAUPT *Engineering Co.*
5070 South Lake Drive, Cudahy, Wisconsin

▲ For more details circle **NED-93 L1** on enclosed inquiry slip ▲

INSURE AGAINST COSTLY DOWN-TIME!

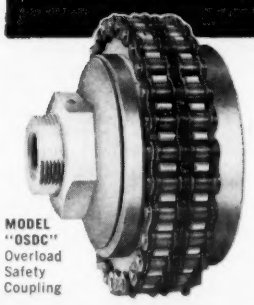
Prevent breakdowns due to jamming



MODEL "OSD" Basic Overload Safety Unit

DALTON OVERLOAD SAFETY DEVICES

Dalton Overload Safety Devices are torque-limiting units that prevent costly breakdowns and excessive wear of equipment due to overloading by automatically disengaging when a set maximum load is reached. They are re-engaged automatically when the overload is eliminated. The devices are easily adjusted with a torque wrench to a specific maximum torque load.



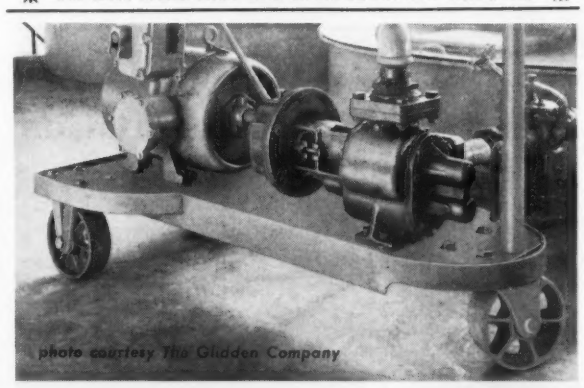
MODEL "OSDC" Overload Safety Coupling

Write today for OSD CATALOG 961

Dalton can supply all your production gear and sprocket needs. Send for quotation.

DALTON gear company — Dept. E, 212 Colfax Ave. North, Minneapolis 5, Minn.

▲ For more details circle **NED-94 L1** on enclosed inquiry slip ▲



pump goes where job is to transfer paint, solvent

A Roper Series 3600 pump, mounted on a three-wheeled platform makes unloading and storage operations hours faster in a large paint and varnish plant. Mixing special batches... completing small orders... transferring paint, varnish, solvents from tank cars to storage... emptying and cleaning huge tanks are just a few of the uses of this versatile pump. Roper pumps serve almost every industry. Request full details today.

ROPER HYDRAULICS, INC.

Send for new 16-page Series 3600 catalog
COMMERCE, GEORGIA

▲ For more details circle **NED-95 L1** on enclosed inquiry slip ▲

NEW decorative patterns

H & K PERFORATED MATERIALS

Just three of H & K's new patterns are illustrated here. Many more contemporary and traditional designs are available in steel sheets for immediate shipment from stock. And there is also a vast selection of additional patterns and open areas which can be custom fabricated from existing dies.

Send for General Catalog 75 and/or Stock List Brochure

FIND NEAREST H&K AGENT IN THE 'Yellow Pages'

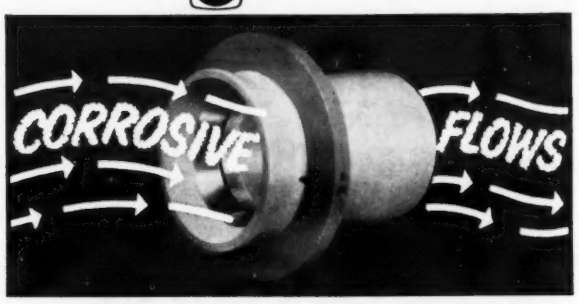
Listed Under "Perforated Metals"

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • New York Office and Warehouse
5658 Fillmore St., Chicago 44 114 Liberty St., Dept. NED, New York

For more details circle NED-96 L1 on enclosed inquiry slip

B-I-F POSITIVE CONTROL OF MATERIALS FLOW



METER ACCURATELY AT LESS COST . . . WITH MINIMUM PRESSURE LOSS!

B-I-F plastic insert Dall Flow Tube meters process chemicals, salt water, air, gases, trade wastes, and water.

- Insert design permits easy installation within pipeline at any flanged joint . . . no special equipment or supports required.
- Completely corrosion-resistant construction beats corrosive liquid metering problem.
- Request free Facts on this low cost, lightweight, versatile flow meter. Write **B-I-F Industries, 425 Harris Ave., Providence 1, Rhode Island.**

B-I-F Industries
A DIVISION OF THE NEW YORK AIR BRAKE COMPANY

METERS • FEEDERS • CONTROLS / CONTINUOUS PROCESS ENGINEERING

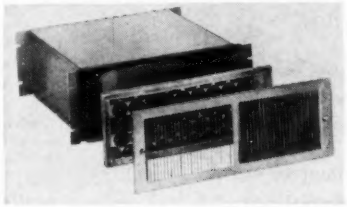
For more details circle NED-97 L1 on enclosed inquiry slip

SENTRY STATION
made of weatherproof rigid vinyl

Vinylseal all-weather sentry station made of white Koroseal rigid polyvinyl chloride will reportedly last over 30 yr without aging or deterioration. Structure is fireproof and will not rot, rust, or corrode, even under severe climatic conditions. Stations are fabricated in a range of sizes with various fixed and triple-track window combinations. Station shown measures 5 ft square by 8 ft high. • **S & C Mfg. Co.,** 3533 Cardiff Ave., Cincinnati 9, Ohio.

For more details circle NED-99 L1 on enclosed inquiry slip

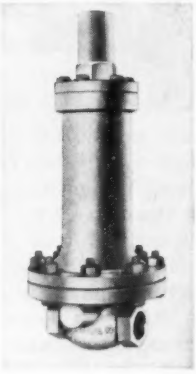
EQUIPMENT VENTILATORS
afford 210-700 cfm air displacement



Panel-Aire ventilators for exhaust or intake mounting in electronic equipment are made in three sizes which deliver 210 to 700 cfm air displacement at 0° static pressure. Installed in any cabinet having rails with standard RETMA notchings, they also filter the air circulated through the equipment. Models PA-3, PA-5, and PA-7 all operate on 115 v ac, can be mounted horizontally or vertically, and have thermal overload protection with automatic reset. • **Morrison Products, Inc.,** 16816 Waterloo Rd., Cleveland 10, Ohio.

For more details circle NED-100 L1 on enclosed inquiry slip

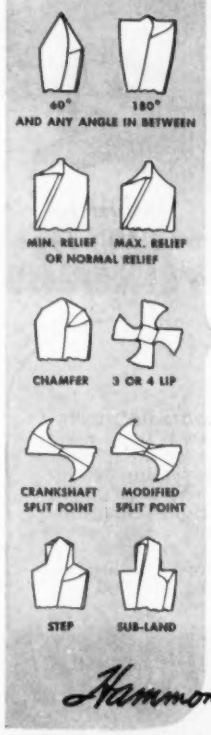
RELIEF VALVE
for gas, oil, and water service



Tight closure for pressures up to 300 psi is provided by this 1910R Type E single-seat relief valve designed for gas, oil, and water service. The spring-loaded, diaphragm-actuated unit has a cast iron body with nickel alloy or stainless steel trim, and features a renewable valve disc and O-ring construction. It is offered in screw-adjusted relief pressure ranges of 5-55, 20-70, 35-90, and 100-250 psi and is made in six sizes from ½ to 2 in. Valve will handle liquids at below 180° F. • **Atlas Valve Co.,** 280 South St., Newark 14, N. J.

For more details circle NED-101 L1 on enclosed inquiry slip

Set-up changes in seconds with the . . .



NEW Hammond MULTI-POINT DRILL GRINDER

NOW accurate grinding, simple adjustments, quick set-ups, and wide variety drill pointing can ALL be yours. Investigate the many distinctive, money saving features of this new, superior Hammond Drill Grinder. Request Bulletin 711 today.

Hammond Machinery Builders INC.
1623 DOUGLAS AVE. KALAMAZOO, MICHIGAN

For more details circle NED-102 L1 on enclosed inquiry slip

with Dillon crane scales, dyna-switches and remote-indicating load cells!

Here is a combination that covers almost every weighing and force control need in the average shop. Model "P" Scale is *sealed by the Los Angeles Bur. of Wts. & Measures* and is legal for trade. Life-saving Dyna-Switches prevent crane and hoist overloading. Dillon Load Cell Systems permit reading of crane loads *from a distance*...also provide *remote measurements of force and stresses in dangerous or confined areas!*

VALUABLE FREE ENGINEERING BROCHURES

If your responsibilities include safety, material handling or weighing and force measurement, this data is a **must!** Specify brochures desired: Crane Scales ☐ Dyna Switches ☐ Load Cells ☐

478

TO MEASURE, WEIGH, TEST OR CONTROL – CALL ON DILLON ...PRECISION INSTRUMENTS FOR 3 DECADES!

W. C. Dillon & COMPANY, INC.
Dept. 119, 14578 Keswick Street, Van Nuys 81, California

For more details circle NED-103 L1 on enclosed inquiry slip

NOW...Stanley introduces an all-new

SOFT FACE HAMMER

with a quick-change socket and tip assembly

Now, for the first time, Stanley socket-tip assemblies make soft face hammer tip replacement quick and easy. Used socket-tip assembly threads off, new one threads on—in seconds!

Stanley's new Soft Face Hammers combine precision-machined, high-grade steel heads and sockets with one-piece special plastic tips. You can choose rawhide or plastic tip assemblies with four different hardnesses. One hammer serves many purposes!

Tips last longer—cost less. And they're color-coded to government specifications for swift identification. There are no pins, studs or bolts to loosen or split. Tips are extra strong and resilient—will not chip or flake—resist grease, oil and most industrial acids.

Write For Brochure . . . Get all the facts on Stanley's new Soft Face Hammers. Save time on the job. Hammers available in 5 different weights: 9 oz., 12 oz., 1 lb., 1¼ lbs., and 2 lb. sizes. Address Stanley Tools, 5811 Elm St., New Britain, Connecticut.

STANLEY
THE TOOL BOX OF THE WORLD

For more details circle NED-98 L1 on enclosed inquiry slip

HYQUIP®

Industrial and Mill-Type
HYDRAULIC CYLINDERS

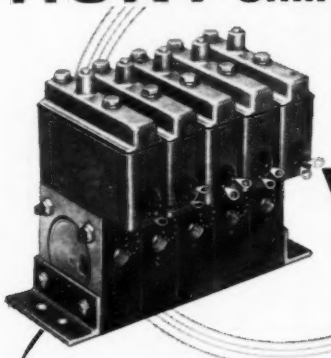
Write for Bulletins HC-61 and C-1260. Address Bellows-Valvair, Hydraulics Division, Salem 9, Ohio, Dept. NED-1161.
3068

Heavy-duty hydraulic cylinders with extra-long nose guides and plastic wear strip on piston, tight-sealing W-section seals on rod and piston (industrial), tongue-seal piston rings (mill-type). Full range of mountings, strokes and cushioning. Bores, 1½ through 12 in. Pressures to 1500 psi, non-shock.

Bellows-Valvair
SALEM, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-104 L1 on enclosed inquiry slip

HUNT Slim Line



miniature
AIR VALVES

Write for Bulletin 612. Address Bellows-Valvair, Pneumatics Division, Akron 9, Ohio, Dept. NED-1161.
3071

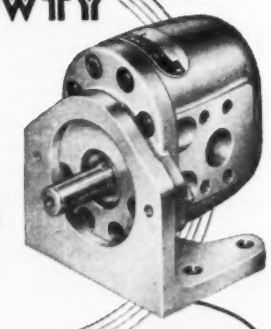
Precision control in minimum space . . . excellent flow capacity. Mount them singly to control tooling, small devices. Or, manifold them in groups to perform a variety of control functions. 3 and 4-way, pressures to 125 psi, tapped ⅛ or ¼ in. NPT.

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-105 L1 on enclosed inquiry slip

BERRY/DOWTY

Hydraulic
GEAR PUMPS



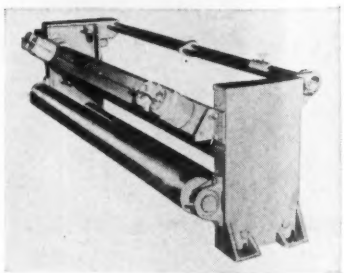
Write for Bulletin HP-311. Address Bellows-Valvair, Hydraulics Division, Salem, Ohio, Dept. NED-1161
3066

Outputs to 85 gpm, pressures to 3000 psi, speeds to 6000 rpm, 3 models, foot or SAE flange mounting. Outstanding volumetric efficiency, pressure-balanced, self-compensating, metered lubrication even at 0 psi, handles overhung loads, cartridge type, minimum working parts.

Bellows-Valvair
SALEM, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-106 L1 on enclosed inquiry slip

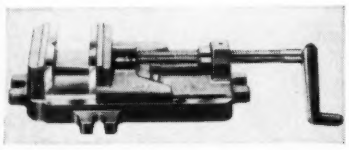
CONSTANT TENSION UNIT for web processing equipment



Existing printing, processing, and other converting equipment can be equipped with the Model 900 automatic constant web tension unit. Two air diaphragm cylinders mounted on the unit are connected through linkage to the dancer or sensing roll. Amount of air supplied to them through an air regulator sets the tension value in the sensing roll. When used with an automatic web guide and unwind or rewind stand, a complete unit for feed-to-process of paper, film, plastics, foil, and coated and uncoated materials is provided. • **Stanford Engineering Co.**, Box 369, Salem, Ill.

For more details circle NED-107 L1 on enclosed inquiry slip

DRILL PRESS VISES made in four standard sizes



All working parts are replaceable in improved line of drill press and milling machine vises, offered with plain or steel jaw faces and swivel cranks. Each vise has a vertical slot for holding rounds, and base slots extending toward the front jaw prevent damage from vertical drilling. Four 11/16-in. keyslots are spaced at right angles. Vises have 3½ and 5-in. jaw widths, 1⅞ and 2-in. jaw depths, and openings of 3¾, 4½, 6, and 6⅞ in. • **Columbian Vise & Mfg. Co.**, 9023 Bessemer Ave., Cleveland 4, Ohio.

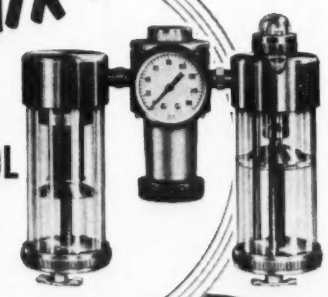
For more details circle NED-108 L1 on enclosed inquiry slip

PIPELINE CONNECTORS resist corrosion, high temperatures

Used in acid and caustic liquid and slurry lines and on corrosive fan and blower exhaust lines, SoundZorber flexible connectors not only minimize transmitted sound and pulsations, but operate leak-free for long periods. Integral full-faced rubber flanges with embedded steel flanges form a tight seal against metal pipe flanges with no metal-to-metal contact. SoundZorber made with smooth inside lining of pure gum rubber and wire-reinforced walls of multiple rubber-impregnated fabric plies has a maximum operating temperature of 200° F. A neoprene-Dacron unit is available for up to 250° F. Standard pipe sizes are made for 150 or 250-psi service. • **General Rubber Corp.**, 68 Summit St., Tenafly, N. J.

For more details circle NED-109 L1 on enclosed inquiry slip

LUBRI-AIR®



AIR CONTROL UNITS

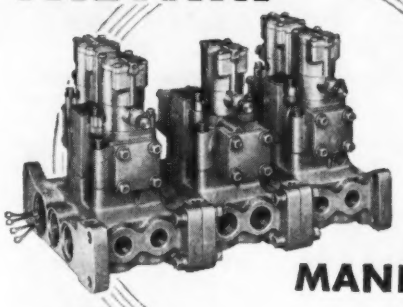
Write for Bulletin LA-20M Dept. NED-1161 Bellows-Valvair Akron 9, Ohio

Automatically filter pressurized air to assure a clean, dry air supply . . . automatically compensate for fluctuations in air pressure . . . automatically compensate for variations in cfm requirements . . . automatically adjust amount of misted lubricant to meet changing cycle rates. ¼" through 1" sizes.
997-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-110 L1 on enclosed inquiry slip

VALVAIR®



multi-station AIR VALVE MANIFOLDS

Write for Bulletin MAN Address: Bellows-Valvair Akron 9, Ohio Dept. NED-1161

Conserve valuable space . . . simplify piping and wiring . . . speed installation . . . cut labor and material costs . . . reduce in-service maintenance down time with Valvair multiple-station valve manifolds. Standard, plug-in and manifold types . . . any desired number of stations and valve styles . . . easily ganged . . . integral conduit, supply and exhaust ports.
8186

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-111 L1 on enclosed inquiry slip

HYQUIP®

packaged hydraulic
POWER UNITS

For more information, write for Bulletin PI-61. Address Bellows-Valvair, Hydraulics Division, Salem, Ohio. Dept. NED-1161.
3069

Compact . . . efficient . . . economical source of hydraulic power. Reservoir, motor, pump and control valves combined in one easy-to-install unit. Standard or custom-built, with reservoir capacities of 25 to 600 gallons, pumping rates from 3 to 60 gpm @ 2000 psi. Accumulators, stand-by pumps, interlock controls optional.

Bellows-Valvair
SALEM, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-112 L1 on enclosed inquiry slip

VALVAIR®

manual-type
AIR VALVES

Write for Bulletin FL-61 Address: Bellows-Valvair Akron 9, Ohio Dept. NED-1161

Solve problems with special purpose valves built from standard ends and bodies. 10 interchangeable ends . . . knob, cam, lever, clevis, treadle, cylinder, diaphragm, ball, foot, solenoid. 5 interchangeable bodies . . . 2-way, 3 and 4-way open or piped exhaust. 5 sizes . . . ¼, ⅜, ½, ¾, 1 in. NPT.
8195

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-113 L1 on enclosed inquiry slip

AIR CYLINDER with Built-in ELECTRIC VALVE

Write for Bulletin BM-25 Address: Dept. NED-1161 Bellows-Valvair Akron 9, Ohio

963-C

Built-in speed controls and electric directional valve give this Model BEM Bellows Air Motor® flexibility, speed and precision control. Low voltage makes it safe electrically anywhere. Requires only one air connection. Available in five bore sizes: 1¼", 1¾", 2½", 3⅝", 4½"—any stroke length.

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-114 L1 on enclosed inquiry slip

VOLTALOC Ultra-High Stability VOLTAGE REFERENCE STANDARDS

Write for Bulletin VS-24. Address: Dept. NED-1161 Jackson Electronic Div. Bellows-Valvair 695 Johnston Street Akron 6, Ohio

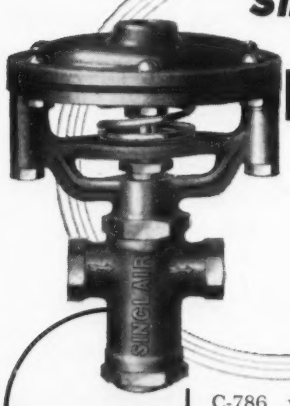
9045

Compact, solid state devices accurate to .000001%. Encapsulated, hermetically-sealed. Models with any output voltage from 0-10 v. DC at inputs of 50-500 cps at 115 v. ± 20%. TC Series has a built-in heater to maintain a constant internal temperature of 60°C.

Bellows-Valvair
AKRON, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-115 L1 on enclosed inquiry slip

SINCLAIR-COLLINS INSTRUMENT PILOT VALVE



Write for Bulletin 59-SC. Address Dept. NED-1161 Bellows-Valvair Hydraulic Division, Salem, Ohio.

3070

C-786 valves amplify instrument and cycle timer signals to pilot large valves, similar units. Provide near-instantaneous response . . . precise control . . . full ¼ in. pipe flow area . . . compact, 5⅜ in. high. S-C quality, yet low-cost. For air, steam, water, or inert gas service, 2- and 3-way, 125 psi, tapped ¼ in. NPT.

Bellows-Valvair
SALEM, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

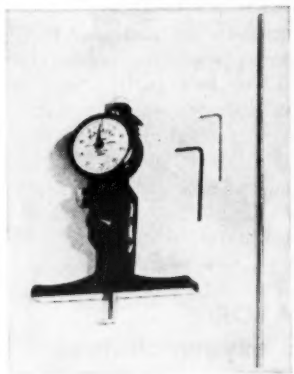
For more details circle NED-116 L1 on enclosed inquiry slip

ADHESIVE-BACKED NAMEPLATES
coated aluminum resists corrosion

Surface treatment given to Super/Cal adhesive-backed aluminum nameplates provides a corrosion and abrasion resistant coating and improves color fastness. Nameplates are offered with quick-release paper backing, water release liner, and with solvent or heat activated adhesives. They bond permanently to metal, plastic, glass, wood, paper, or painted surfaces and are furnished in a range of colors and color combinations, either in dull or shiny finish. • **Aluminum Nameplate Corp.**, 32-01 57th St., Woodside, L. I., N. Y.

For more details circle NED-117 L1 on enclosed inquiry slip

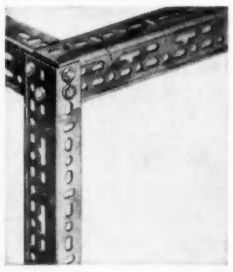
INTERNAL GROOVE GAGE
checks location and depth



Equipped with a 0.0005-in., 0-25-0 dial indicator, the Model B-1400 groove gage accurately checks internal groove location and depth. Width of groove is distance traveled by the gaging rod, plus thickness of the foot. This method simultaneously checks groove location. Changing of gaging direction to check the opposite groove surface is done without disassembly. The 0-187-in. diameter gaging rod is standard. One footed rod to user's dimensions and one straight rod are included. • **Boice Gages, Inc.**, Boice Road, Hyde Park, N. Y.

For more details circle NED-118 L1 on enclosed inquiry slip

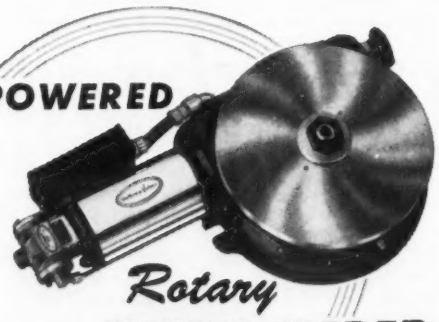
SLOTTED ANGLE FRAMING
for making into racks, structures



Quickly cut to the desired length with any angle iron cutter, Sturdi-Bilt slotted angle is bolted together to erect structures of any size or shape. Two types of the prepunched framing material are available in 10 and 12-ft lengths, 10 lengths to the package, with 75 nuts and bolts. They are ready for cutting and assembly into racks, carts, stands, maintenance structures, and other items. • **Union Asbestos & Rubber Co.**, Sturdi-Bilt Material Handling Div., 332 S. Michigan Ave., Chicago 4, Ill.

For more details circle NED-119 L1 on enclosed inquiry slip

AIR-POWERED Rotary WORK FEEDER



Write for Bulletin RT-1022 Address: Dept. NED-1161 Bellows-Valvair Akron 9, Ohio

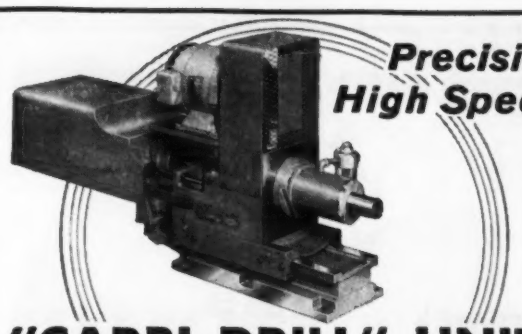
Dial feed work pieces. Cut cost in half. Bellows Rotary Feed Tables are air-powered, electrically controlled for easy interlock with drill press spindles or press rams. All valves and controls are built-in. Ten inch diameter table top can be machined for mounting jigs and fixtures. Adjustable for 4, 6, 8, 12 or 24 feeding stations.

993-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-120 L1 on enclosed inquiry slip

Precision High Speed "CARBI-DRILL" UNITS



Write for Bulletin CD-75 Address: Dept. NED 1161 Bellows-Valvair Akron 9, Ohio.

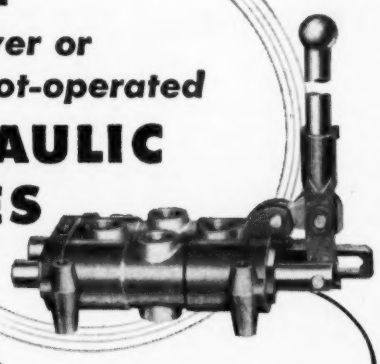
1209C

Heavy-duty units for high-speed precision drilling, tapping, reaming, gun drilling, etc. Four models available with strokes up to 8" and drilling capacities up to 1¼". Wayslide Carbi-Drills can be equipped with gun drilling, single or twin spindle heads. Heads are interchangeable.

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-121 L1 on enclosed inquiry slip

HUNT lever or pilot-operated HYDRAULIC VALVES



Write for Bulletin 603. Address Bellows-Valvair, Hydraulics Division, Salem, Ohio, Dept. NED-1161.

3072

Whatever the application, whatever the service, whatever the pressure, whatever the size, whatever the actuation required . . . chances are you'll find a hydraulic valve in the Hunt line *exactly* suited to your needs. Sizes from ⅛ through 8 in. for water, soluble oil and water, to 5,000 psi.

Bellows-Valvair
SALEM, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-122 L1 on enclosed inquiry slip

Bellows-Valvair

NOW... One Sales and Service Source

for pneumatics, hydraulics and related electronics

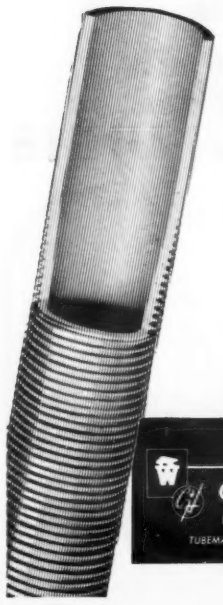
• New Bulletin FP-62 will give you more information on the divisional product groupings. Address Bellows-Valvair, Akron 9, Ohio, Dept. NED-1161.

1201-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle NED-123 L1 on enclosed inquiry slip

FOR HEAT TRANSFER . . .



FINS THAT CAN'T COME OFF

WRITE

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. S, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper — Copper Alloys — Aluminum — Special Metals

For more details circle NED-124 L1 on enclosed inquiry slip

Increase efficiency—reduce cost with

FLO-TRONICS AIR CONVEYING

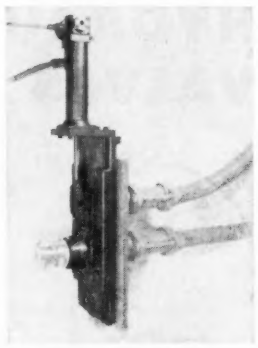
Systems and Equipment

Flo-Tronics complete air conveying systems and system components are designed to meet your specific requirements. Systems include complete automatic controls. Equipment is available as standard, in cast iron, chrome-plated, Ni-Resist and stainless steel construction.

NEW "FLO-SEAL" LINE DIVERTER

Air operated, solenoid piloted "Flo-Seal" Line Diverter provides remote, automatic selection of two conveying lines. Surface-to-surface contact of the ground and polished slide on a stationary shoe insures maximum sealing area and provides air-tight operation. Ideal for "on stream" line switching—self cleaning operation with no areas for product accumulation. No seals or lubricants required. Dismantle for service or inspection in 60 seconds. Available in 1½ inch through 10 inch conveying line sizes.

Flo-Tronics engineers are anxious to assist you with your air conveying problems. Write today for "Flo-Seal" Line Diverter product sheet and air conveying systems brochure. No obligation of course.

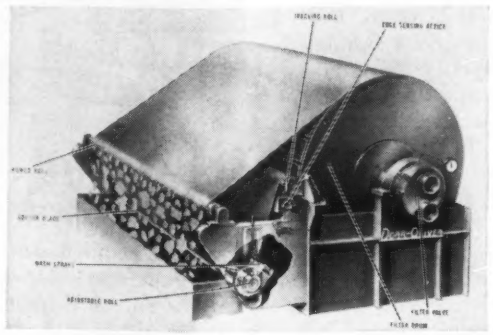


FLO-TRONICS, INC.
Air Conveying Division
1430 Zarthan Avenue
Minneapolis 16, Minnesota

For more details circle NED-125 L1 on enclosed inquiry slip

BELT VACUUM FILTER
applicable to many products for filtration, dewatering, washing

Wide range of sizes is available in the Webtrol belt vacuum filter which incorporates web tracking control and web spreading equipment. A bowed roll spreads

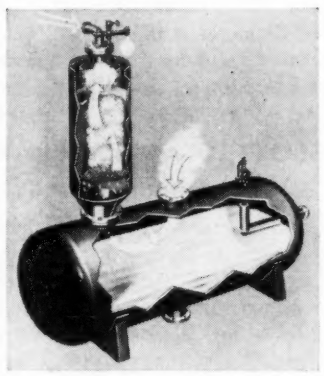


and smoothes the fabric, holding the filter medium flat against the filter drum under uniform tension. Equipment is applicable to slurries which tend to "blind" the cloth, and to operations where high filtrate clarity must be obtained.

Three-roll filter system provides positive belt control, continuous wrinkle removal, constant hydrostatic cloth backwash, and friction-free belt path. Surface solids are removed by high velocity jet sprays and hydrostatic washing. Most varieties of cloth media can be fabricated into belts from standard textile widths. Steel, alloy, and stainless steel construction are available in rolls, support grids, and tank linings. ● **Dorr-Oliver Inc.**, Havemeyer Lane, Stamford, Conn.

For more details circle NED-127 L1 on enclosed inquiry slip

FEED WATER DEAERATOR
reduces corrosive oxygen content

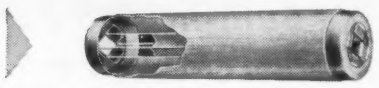


Steam moving in counterflow to raw water spread in thin layers by a self-cleaning spray nozzle scrubs out dissolved oxygen and carbon dioxide in the Boilermate deaerator. By reducing corrosive oxygen in boiler feed water to less than 0.005 cc per liter, corrosion in the entire system is minimized. The carbon dioxide level is reduced to zero. The packed column deaerator is built to standard commercial or ASME codes in seven models with ratings from 1500 lb per hour at 50° F to 55,000 lb at 150° F. Carbon steel storage tanks for deaerated water hold from 53 to 1012 gal. Deaerator will operate on waste exhaust steam at 5 psi or steam from the boiler. ● **Aqua-Chem, Inc.**, 225 N. Grand Ave., Waukesha, Wis.

For more details circle NED-128 L1 on enclosed inquiry slip

WOODEN | SHELLS ROLLS CORES

to serve the
TEXTILE • RUBBER • PAPER • PLASTIC
and other industries



The CAP WELD SHELL shown above is made with square metal tube extending through the entire length of shell.

The MACHINE ROLL is made from glued or solid stock, with journal through entire length, or gudgeons in the ends.

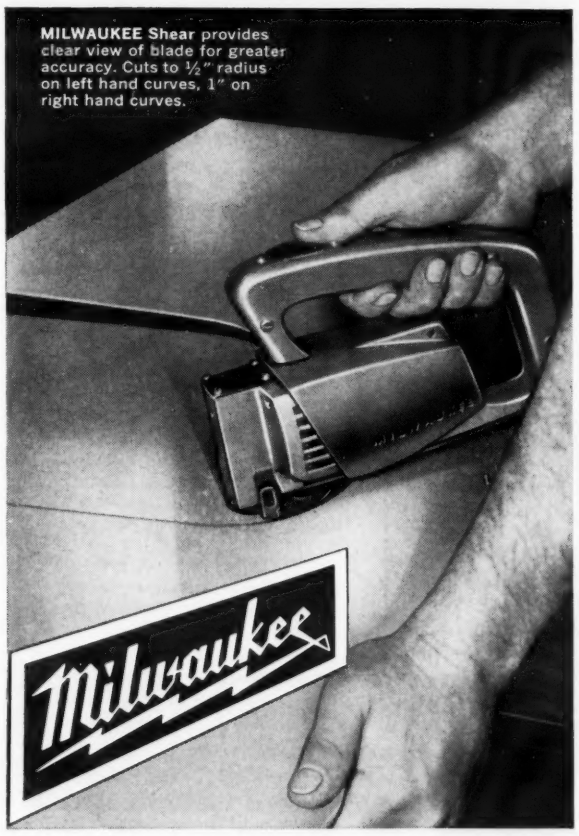
OTHER OPTIONAL TYPES
• CAPPED END SHELLS • CAPPED SQUARE SHELLS • LAG ROLLS

Supplied in Standard Diameters; other Diameters to 16" and Length to 11' on special order.

Send For Descriptive Brochure

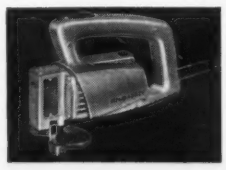
CYLINDER MFG. CO. 2 MAITLAND AVE., HAWTHORNE, N. J.
ESTABLISHED 1916

For more details circle NED-129 L1 on enclosed inquiry slip



HEAVY-DUTY
Electric Shear

★ Cuts 16 gauge cold rolled steel . . . 17 gauge stainless, galvanized sheet, aluminum and monel metal
★ High speed . . . 3800 strokes per minute
★ Cuts close curves, right or left . . . won't distort metal
★ Handle is forward and low . . . for easy control
★ Clear visibility . . . unobstructed line of sight
★ *Exclusive* cutting action
★ Weighs only 5¼ lbs. . . . perfectly balanced

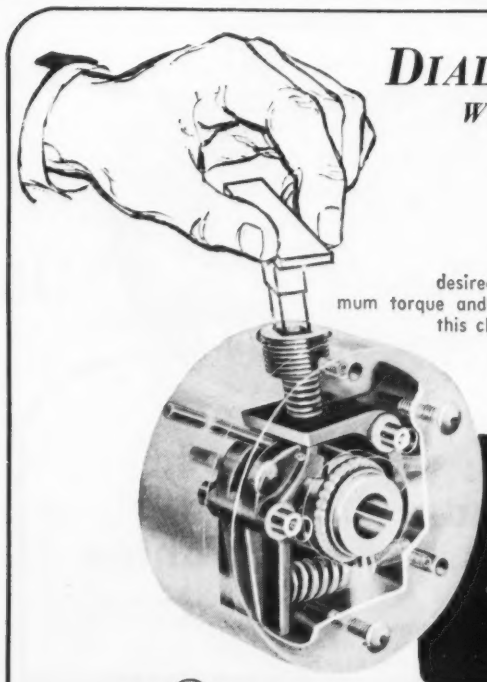


See your MILWAUKEE Distributor, or send for detailed bulletin SH-1.

Find Your Nearest Dealer in the Yellow Pages *Look under TOOLS - Electric*

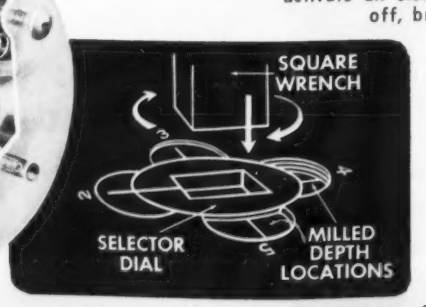
MILWAUKEE ELECTRIC TOOL CORP.
5320 WEST STATE STREET • MILWAUKEE 8, WISCONSIN

For more details circle NED-130 L1 on enclosed inquiry slip



DIAL YOUR TORQUE CONTROL
With a Centric Trig-O-Matic Overload Release Clutch

Now available on all Trig-O-Matic Overload Release Clutches is a Torque Selector Dial for easy and accurate selection of predetermined torque limits reflecting application requirements. To adjust the clutch turn the Selector Dial until the red line runs flush to the desired milled depth location indicating the torque required. A set and maximum torque and up to two intermediate settings can be had. When overload occurs, this clutch INSTANTLY, AUTOMATICALLY disconnects the load from the driving unit avoiding costly damage, product waste and expensive downtime. If required, an actuating mechanism is available to activate an electrical disconnect for power shut-off, brake, lights, signaling systems, etc., as desired, at the instant the load is disconnected.



Standard Trig-O-Matic Clutches have torque ranges from 7" pounds to 30,000" pounds.

CENTRIC CLUTCH COMPANY
MAIN STREET AT ROUTE 9 • WOODBRIDGE, N. J. • ME 4-1761

For more details circle NED-126 L1 on enclosed inquiry slip

burn

your permanent mark
into IRON, STEEL or ALLOYS—
tools, labels, metal sheets, etc.

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"UNIVERSAL"
ELECTRIC ETCHERS

ELIMINATE inventory mix-ups, lost tools, parts, label errors.
SAFE and QUICK as a pencil.

SEE YOUR IDEAL DISTRIBUTOR — OR WRITE FOR FULL INFORMATION

Sold Through America's Leading Distributors

In Canada: Irving Smith, Ltd., Montreal

Every plant has dozens of uses where Ideal Etchers save money and time! Marks can't be changed or overlooked. Far cheaper than tags and special plates. "Universal" model gives you 4 etching heats for all conductive metals — 120 to 400 watts. Other models for all types of work. Make your mark easier, faster in complete safety.

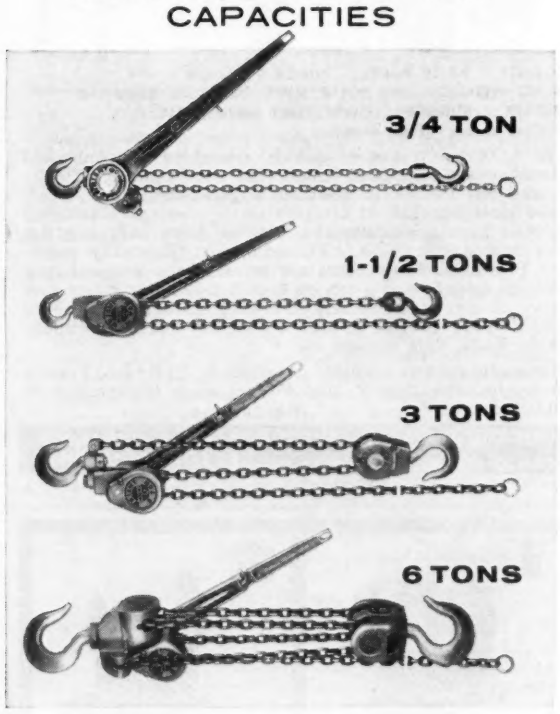
IDEAL INDUSTRIES, Inc.
1032-K Park Ave.
Sycamore, Ill.

For more details circle NED-131 L1 on enclosed inquiry slip

NOW...Made of Aluminum!

WRIGHT Type "C" Pull-A-Ways

IN ¾, 1½, 3 AND 6 TON CAPACITIES



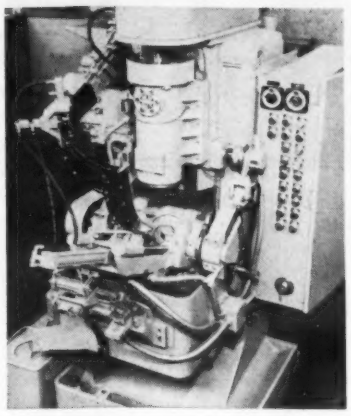
For easier portability at no sacrifice in proved performance, Wright now uses aluminum alloy castings for the gear case, handle and covers on all models of the Type "C" Pull-A-Way. Hooks, load chain and chain sheave are made of alloy steel as before. Truly versatile performers on hundreds of quick hook-up jobs, Type "C" Pull-A-Ways offer other outstanding features such as: positive load brake that securely holds the load at any point, lifetime lubrication of all internal parts, blocked chain to fit the load sheave with greater accuracy. Weights: ¾ ton, 12½ lbs.; 1½ ton, 23½ lbs.; 3 ton, 36½ lbs.; 6 ton, 63 lbs.

Write to our York, Pa., office for Bulletin DH-56

WRIGHT HOISTS
Wright Hoist Division • American Chain & Cable Company, Inc. ACCO
York, Pa., Atlanta, Chicago, Denver, Detroit, Houston, Los Angeles, New York, Philadelphia, Pittsburgh, San Francisco, Bridgeport, Conn.

For more details circle NED-132 L1 on enclosed inquiry slip

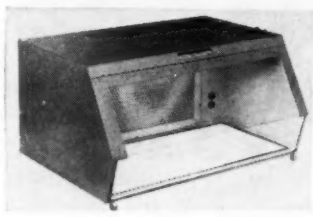
SPHERICAL MILLING MACHINE
hopper-loader minimizes cycle time



Precision full - end and truncated spheres are rough milled prior to finish Microhoning by the improved spherical milling machine. Partial-sphere type parts are economically machined by the machine which incorporates an improved sizing control system for increased accuracy and uniformity in the finished part size. An integrated hopper-loader system reduces loading time from 4 to 5 sec to only 1 sec per part. Production capacity is up from 240 to 260 parts per hour. • **Micromatic Hone Corp.**, 8100 Schoolcraft Ave., Detroit 38, Mich.

For more details circle NED-133 L1 on enclosed inquiry slip

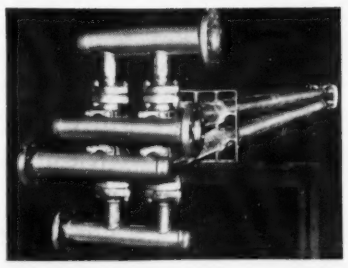
DUST-FREE WORK CABINET
for assembly and testing uses



Continuous outward flow of twice-filtered air prevents lint, pollen, dust, and dust-borne bacteria from entering the work area of the Model B special-aire cabinet. Tests show 99.25 per cent of 0.5 to 1-micron dust particles are arrested. Packaged filter unit protects clean room atmosphere when servicing filters. Used for assembly, research, and testing of ball bearings, semiconductors, and optical and precision instruments, the cabinet has a hinged front panel for insertion of large work into the 36 x 28 x 18-in. cabinet. An internal electrical outlet, two-speed blower, and a microscope viewing port are incorporated. • **Specialties, Inc.**, Skunks Misery Road, Syosset, L. I., N. Y.

For more details circle NED-134 L1 on enclosed inquiry slip

HEAT EXCHANGERS
preassembled type rated to 6000 psi

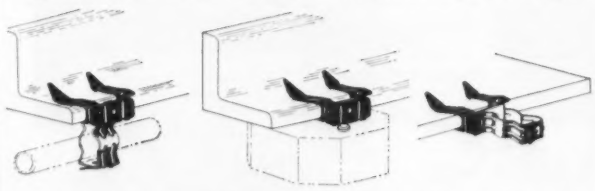


Bolted together and manifolded to customer's specifications, these double pipe hairpin type heat exchangers are hydrostatically tested before shipment. They are made with bare or finned tubing in 3 and 4-in. shell sizes for pressures up to 6000 psi. Over-all lengths from 11½ to 27 ft, heights from 13½ to 16 in., and widths of 8, 9, or 10 in. can be specified. Foundations can be erected at the plant site and piping prefabricated so that a heat exchanger can be on stream shortly after delivery. Pretesting assures proper manifolding and alignment. • **Brown Fintube Co.**, 300 Huron St., Elyria, Ohio.

For more details circle NED-135 L1 on enclosed inquiry slip

CONDUIT HANGERS
two sizes fit steel beam flanges

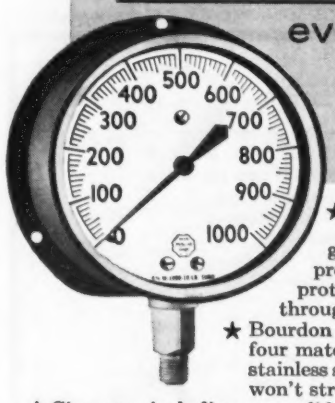
Combination beam clamp and conduit hangers are available for use in installing ½, ¾, and 1-in. thin, rigid, and aluminum conduit. Manufactured from heat



treated spring steel in sizes to fit ⅛ to ¼-in. and 5/16 to ½-in. beam flanges, they are phosphate and wax coated for rust resistance. Bracket or flange portion is offered separately with a ¼-20 thread for installing conduit boxes flush with the under side of a beam, thereby eliminating conduit bending. Separate conduit hangers require only pliers to snap them on conduit. • **Erico Products, Inc.**, Fastener Div., 2070 E. 61st Place, Cleveland 3, Ohio.

For more details circle NED-136 L1 on enclosed inquiry slip

Helicoid Gages give *Sustained Accuracy*, even on the toughest jobs

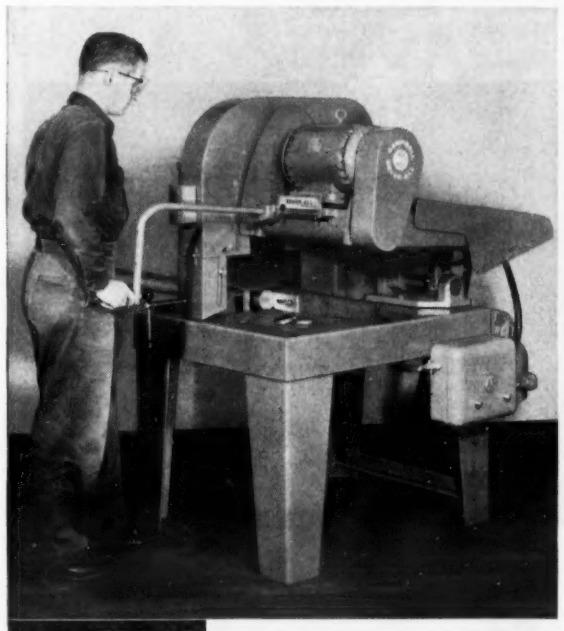


★ Exclusive Helicoid movement has no gears, no teeth. Shock-proof construction protects accuracy through millions of cycles.
★ Bourdon tubes available in four materials—bronze, steel, stainless steel, and K Monel—won't stretch, crack, or leak.
★ Six cases, including new solid-front safety case, meet every mounting requirement.
★ External pointer adjustment can't be jarred out of position.
★ A complete selection of gages and accessories for hydraulic, chemical, and other service.

Write for Catalog DH-65.

HELICOID GAGES ACCO
Helicoid Gage Division
American Chain & Cable Company, Inc.
929-J Connecticut Avenue • Bridgeport 2, Conn.

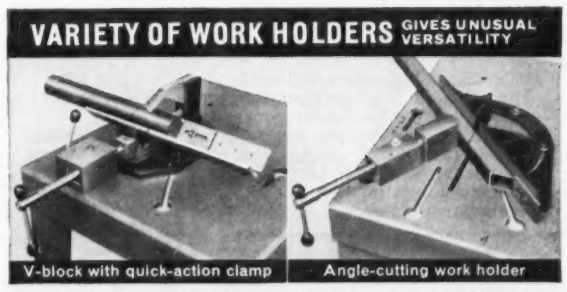
For more details circle NED-137 L1 on enclosed inquiry slip



NEW! GREATEST CUT-OFF CAPACITY IN ITS CLASS!

This newest addition to the Sever-All line of abrasive cutting machines—the Model 2-A—provides greater cutting capacity and more flexibility than any other machine in its class. Check these important advantages: **Big capacity** • cuts 4" round or square solids, 6" diameter tubing or standard pipe, 6" x 1" flat stock, 6" angle iron and 8" channels. Cuts practically all metals. **Fast operation** • accurate cuts at rates of 2 to 3 seconds per square inch. **Power oscillation** • oscillation is the forward and backward motion of the wheel as it is fed down into the cut. It provides extra cutting capacity, longer wheel life, cooler cutting, and reduced operator fatigue. **Quality cuts** • clean, smooth cuts, require little or no finishing operation. **Economy** • specially developed Sever-All wheels provide lowest cost per cut.

VARIETY OF WORK HOLDERS GIVES UNUSUAL VERSATILITY



Choose the work holders you need from several optional arrangements. These include the vise-type holder shown on the machine at top, plus the V-block and angle-cutting fixtures above. Screw-type and quick-action clamping may be used interchangeably.

Write for details on the new Model 2-A Sever-All abrasive cutting machine. Ask for Bulletin DH-299

SEVER-ALL ABRASIVE CUTTING MACHINES ACCO
Allison-Campbell Division
American Chain & Cable Company, Inc.
930 Connecticut Avenue, Bridgeport 2, Conn.

For more details circle NED-138 L1 on enclosed inquiry slip

Seals east orange inc.

Complete kit of technical literature and ordering information..

O-Rings

Specially compounded elastomers for sealing all common and exotic fluids and gases in a wide range of temperatures and pressures. Over 1,300 standard and non standard molds available for your production or small run needs. Quality products, unique service and fast. delivery from large inventory at competitive prices.

Overnight delivery on standard parts in any size.

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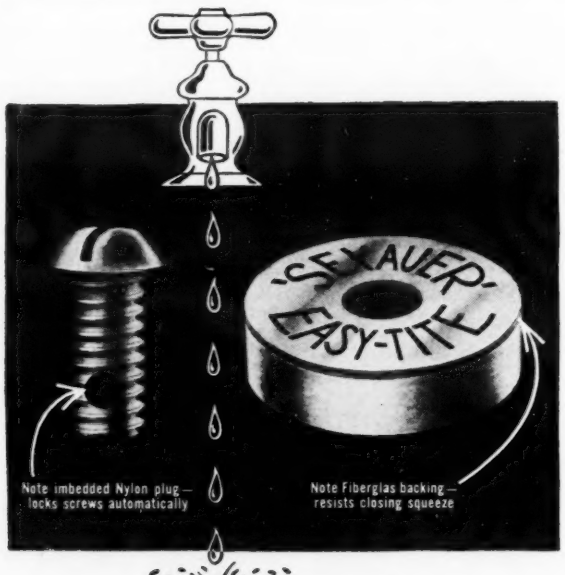
393 CENTRAL AVE. • EAST ORANGE, N. J. • OR 4-8888

▲ For more details circle **NED-139 L1** on enclosed inquiry slip ▲



New Way to Stop Faucet Leaks!

★ **9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!**

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ **New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.**

★ **NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.**

★ **Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!**

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-111
2503-05 Third Ave., New York 51, N.Y.

Please send me a copy of your NEW Catalog "J"

Name _____ Title _____

Organization _____

Bus. Address _____

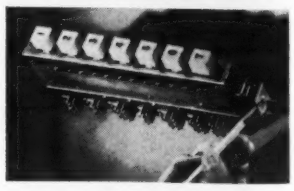
City _____ Zone _____ State _____

SEXAUER

WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

▲ For more details circle **NED-140 L1** on enclosed inquiry slip ▲

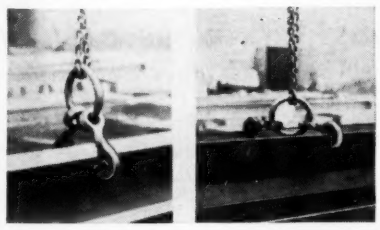
PUSHBUTTON SWITCH
can have from 1 to 10 stations



Mechanical linkage of the Series TP 8800 pushbutton switch prevents engaging more than one pushbutton at a time. The "teaseproof" unit actuates up to six contacts in a group and can be furnished with one to ten stations. Illuminated pushbuttons, rain and dust boots, and pushbutton or solenoid operated releases are optional. Numbered or lettered buttons are spaced on 1⅛ in. centers and extend 3¾ in. behind panel. Snap-action contacts are rated 5 amp at 120/250 v ac or 30 v dc, 3 amp inductive, 5 amp resistive. Two or more modules may be stacked and mounted in any position. • **American Monarch Corp.**, 2801 37th Ave. N.E., Minneapolis 18, Minn.

▲ For more details circle **NED-141 L1** on enclosed inquiry slip ▲

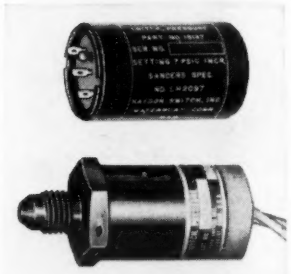
BEAM-LIFTING HOOKS
capable of lifting 10,000 lb



Once engaged, grip of the Diamond lifting torque hooks increases in proportion to the increase in weight of the steel beam, girder, or channel being handled. Made of Mayari R high strength steel, they speed handling in unloading, stacking, fabricating, machining, painting, shipping, and other operations. Hooks lift weights to 10,000 lb and beams from 6 to 36 in. wide. • **Elizabeth Iron Works, Inc.**, Box 360, Elizabeth, N. J.

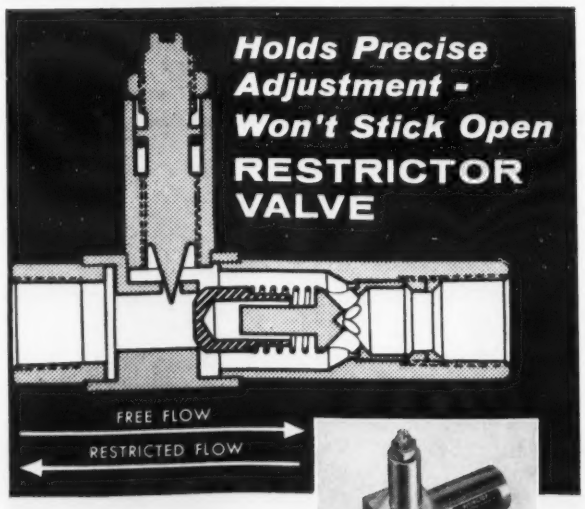
▲ For more details circle **NED-142 L1** on enclosed inquiry slip ▲

PRESSURE SWITCHES
factory preset in 10-500 psi range



Type 1100 miniature pressure switches are available with or without pressure port and with options of solder terminals, potted leads, or electrical connector for electrical termination. Units without external port are recommended for installation inside a low pressure cabinet or vessel, or within a pressurized system. All are factory set to pressures from 10 to 500 psi. Without external port, switch measures 1⅝ x 15/16 in., has ambient range from −65 to 250° F, and weighs from 0.75 to 2 oz. • **Haydon Switch, Inc.**, 536 S. Leonard St., Waterbury 20, Conn.

▲ For more details circle **NED-143 L1** on enclosed inquiry slip ▲



■ **DEPENDABLE — no close sliding fits**

■ **STRONG — all steel**

• **For Oil — up to 3,000 psi**

• **Sizes — ¼, ⅜, ½ & ¾ pipe (NPTF) — in stock**

Write for detailed literature

Fluid Controls, inc.

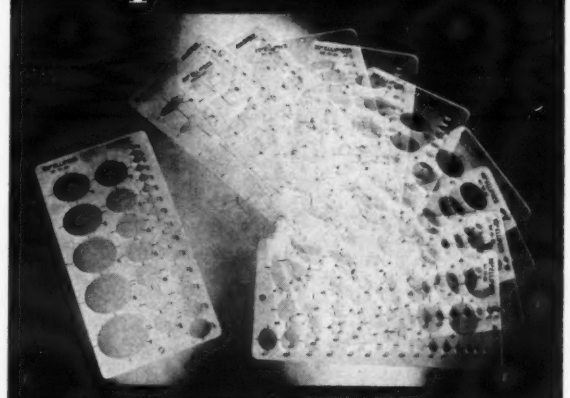
Manufacturers of Hydraulic Valves and Devices

Relief Valves • Check Valves • Restrictor Valves
Needle Valves • Pilot Check Valves • Special Valves
Pressure Compensated Flow Regulators

P. O. Box 186 • Mentor, Ohio • BL 5-3426

▲ For more details circle **NED-144 L1** on enclosed inquiry slip ▲

ellipses • • *no. 70 series*



TEN TIME-SAVER TEMPLATES
FROM 15° TO 60° IN INCREMENTS OF 5°
MAJOR AXES FROM ¼" TO 2"
INDIVIDUAL TEMPLATES — $2.00 EACH
SET OF TEN TEMPLATES — $18.00

There are more than 100 Rapidesign Templates—all of which are better made...more useful and lesser priced.

CATALOGUE NO. 60 AVAILABLE UPON REQUEST

RAPIDESIGN INC.
P. O. BOX 429, BURBANK, CALIFORNIA

▲ For more details circle **NED-145 L1** on enclosed inquiry slip ▲

NEW
***FAS-LOK* STORAGE RACK**

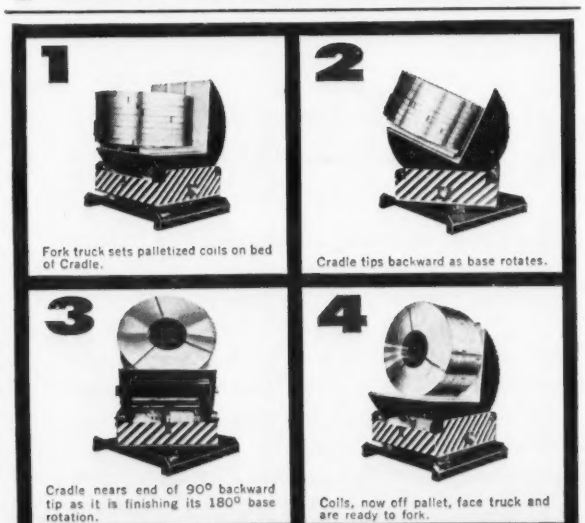
- **ONLY 2 BASIC PARTS... QUICK ERECTION**
- **NO WEDGES... NO BOLTS, NUTS, OR TOOLS REQUIRED**
- **SAFE... RUGGED... *COMPLETELY ADJUSTABLE***
- **Easy access — front or rear.**

FAS-LOK Racks can be quickly assembled into unlimited combinations of height, length, and shelf opening. Rigidly braced end frames, in standard heights from 5′ to 22′ 6″, have slots punched in uprights on 3″ centers. Horizontal runners have hookplates at each end. Each hookplate has two tapered ears which fit slots of upright (inset). To assemble FAS-LOK Racks, ears are set into the wedge-shaped slots on upright and a tap on horizontal runner drives ears down, seating them securely in a wedging action to produce a rock-solid rack. Can be used to store any material—Pallets, Skids, Rolls, Bulk storage, etc.

Horizontal runners available in lengths to 20 ft.; End Frames in depths from 2′ to 5′. End Frames made in capacities to 40,000 lbs. *Write for Catalog*

CHICAGO TRAMRAIL DIVISION
CONCO ENGINEERING WORKS INC.
1310 S. KOSTNER AVE.
CHICAGO 23, ILLINOIS

▲ For more details circle **NED-146 L1** on enclosed inquiry slip ▲



TURNOVER CRADLE PALLETIZES AND DE-PALLETIZES COILS IN SECONDS

In as little as 14 seconds, one man and a fork lift or crane can up-end and remove coils from pallets with the automatic Turnover Cradle. This labor-saving device does the job six times as efficiently as older methods. To palletize coils, simply reverse procedure. Won't damage material. Send for illustrated brochure.

turnover cradle

A Product of LA DEAU MANUFACTURING COMPANY
2702 San Fernando Road, Los Angeles 65, Calif., CApitol 2-8108

▲ For more details circle **NED-147 L1** on enclosed inquiry slip ▲

MISTKOP

STOPS MIST

COLLECTS MIST-FOG EFFECTIVELY IN A SMALLER SPACE

This efficient Mistkop unit provides low-cost mist control for all machining operations employing coolants or lubricants. Requires no duct work or costly piping—*is actually portable!*

Mistkop is sturdy in design—has a minimum number of parts and gives long, trouble-free service. Stops clouding of lights . . . eliminates fire hazards of uncontrolled mist. Write for detailed description.

AGET Manufacturing Company
1396 Church Street • Adrian, Michigan

▲ For more details circle **NED-148 L1** on enclosed inquiry slip ▲

7 Types of HOBBS Controlled Tension Winders

Check the Type YOU Need

☐ **1. STANDARD HOBBS CHP WINDER.** Preset tension is automatically maintained through the torque-speed characteristic of a constant horsepower A.C. motor. The latter slows down as the diameter of the roll increases. Its torque output increases proportionally, maintaining essentially constant H.P.—the equivalent to constant tension. May be stalled 100%. 220 or 440 volt operation. Roll buildup depends upon material being wound. Also supplied for tapered tension. Ratio of speed change and diameter buildup as high as 1:30.

☐ **2. HOBBS CHP WINDER WITH SYNCHRONIZATION (NTJ).** Preset tension maintained during frequent speed changes through a 3-phase synchronizing generator, driven by main machine. Speed of generator varies with that of main machine. Frequency of output current and speed of motor varies accordingly, resulting in essentially constant tension. Unit has higher ratio of speed change and diameter buildup than standard unit, a ratio of 1:100 being obtained on some material.

☐ **3. HOBBS APF PROGRESSIVE FRICTION WINDER (APF).** Preset tension automatically maintained with extreme accuracy, during a roll buildup of 8:1, through a series of overriding friction clutches running in oil. Driven from the main machine, winder changes speed in proportion and still maintains constant tension. Required torque increase is sensed directly from the web (no dancer rolls).

☐ **4. HOBBS DC FIELD CONTROL WINDER SYNCHRONIZED WITH DC MACHINE DRIVE.** Preset tension automatically maintained (with accuracy of ±2% over roll buildup of 8:1, or even 10:1) by controlling the field current through a saturable reactor. Strength of the field is automatically adjusted to hold the armature current constant for any tension setting.

☐ **5. HOBBS DC FIELD CONTROL WINDER—WITHOUT DC MACHINE DRIVE.** For situations where synchronization is not necessary. Except for absence of synchronization, winder operates as above. An independent adjustable DC supply is provided for the automatic field control.

☐ **6. HOBBS DC FIELD CONTROL WINDER SYNCHRONIZED WITHOUT DC MACHINE DRIVE.** Synchronized winding characteristic is as described in paragraph 4. However, the armature voltage is automatically controlled by a signal from a tach generator on the main machine. This operates through a magnetic amplifier and saturable reactor circuit.

☐ **7. HOBBS DC SPEED CONTROL WINDER.** For use when ranges of speed, width and diameter are beyond the capacity of a tension control winder. This unit provides synchronization and near zero constant tension. A dancer roll controls a transducer, regulating the armature voltage of a DC shunt motor, thus determining the output speed of the motor. Static control achieved with a saturable reactor.

Check the type of Hobbs winder most suitable for YOU and ask us to figure on your requirements.

If you don't know, tell us your problem and ask us to make recommendations.

HOBBS Manufacturing Company
41-K Salisbury Street, Worcester 5, Mass.

Direct Sales Offices in Irvington, N. J., Columbus, O., Chicago, Ill. and Los Angeles, Calif. Representatives in Greenville, S. C., and Toronto, Ont., Canada

609-8

WINDERS • HAND & POWER SHEARS • SLITTERS & REWINDERS • DIE PRESSES

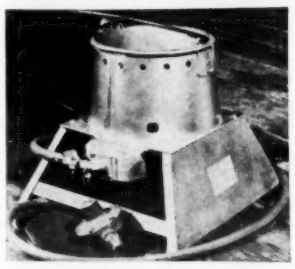
▲ For more details circle **NED-149 L1** on enclosed inquiry slip ▲

INDUSTRIAL TRACTOR TIRE
features long wear, good traction

Designed for agricultural type tractors used in industrial operations, the Power Industrial rear tractor tire has wide, massive cleats and a self-cleaning tread design. It wears well when used on hard surfaces and has ample traction in soft mud or dirt. Tube type tire has Tyrex cord six or eight-ply construction and is suited for tractors mounting lift loaders, trenchers, or back hoes. It is made in 14.9-24, 14.9-28, 16.9-28, and 18.4-26 sizes. • **B. F. Goodrich Tire Co.**, 500 S. Main St., Akron 18, Ohio.

▲ For more details circle **NED-150 L1** on enclosed inquiry slip ▲

INFRARED LEAD FURNACE
melts glue, wax, other compounds



Consisting of a 50-lb capacity cast iron melting pot mounted over a 12,000-Btu Perfection-Schwank gas-fired infrared burner, this lead furnace converts propane fuel energy to uniform infrared radiation. Fuel is burned on a ceramic mat at a surface temperature of 1600° F. Lead losses due to burning are less than ½ lb for each 20 lb melted. After charge is melted, burner can be throttled down to save fuel. An average 20-lb, 9-hr propane cylinder will last 36 hr on this furnace at full throttle and up to 60 hr when throttled down. Furnace can also be used for babbitt metal, paraffine, glue, and other compounds that melt under 900° F. • **Wagner Products Corp.**, L & W Div., 2834 63rd Ave. S., St. Petersburg 12, Fla.

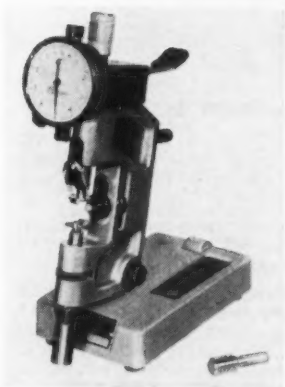
▲ For more details circle **NED-151 L1** on enclosed inquiry slip ▲

DIAL & EMBLEM FINISHER
fills depressions, wipes, polishes

Dials, emblems, and various parts which require the filling of surface depressions, then wiping and polishing, are finished on this automatic machine. It has a rotary index table with eight spindles, five of which spin, with three available for loading and unloading. Table accommodates a fill head, smear wipe, full wipe, light buff, and painting head, in any combination. The spinning part is indexed to each head. At wiping heads, the roll wiping material is moved up slightly after each indexing to provide a clean surface for each part. • **Conforming Matrix Corp.**, 771 New York Ave., Toledo 11, Ohio.

▲ For more details circle **NED-152 L1** on enclosed inquiry slip ▲

THREAD MEASURING GAGE
rapidly measures pitch diameter



Three-wire carriers used in the indicating P.D. Comparator provide an accurate and rapid method of measuring thread pitch diameters according to Government H-28 specifications. Conventional hand-held wires are placed in individual carriers for handling ease and long life. They are available in N, P, and NQ sets for use on micrometers, measuring machines, and the P.D. Comparator. It can also be used to measure gear pitch diameters and regular outside diameters in an adjustable range from 0 to 1 1/16 in. • **Standard Gage Co.**, 70 Parker Ave., Poughkeepsie, N. Y.

▲ For more details circle **NED-153 L1** on enclosed inquiry slip ▲

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

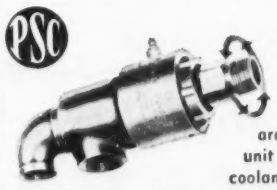
▲ For more details circle **NED-154 L1** on enclosed inquiry slip ▲

ROTARY UNION*

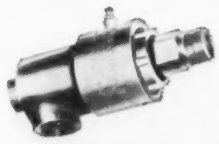
The unique features and design of the Rotary Union permit one type to handle most applications for steam, water, air, vacuum, or other fluids and gases, without adjustments. The Rotary Union's ability to automatically adjust to internal and external stresses and to variations and surges in line pressure make it the most efficient and long-lasting seal you can get.

There is a Rotary Union for every heating or cooling purpose—through a complete range of pressures, temperatures, and speed. Here are several types.

PSC



TYPE S
Designed for installations where both supply and return of gases or liquids are required within the same unit and for syphon drainage of coolants or steam condensates. Special construction prevents breaking or falling off of syphon pipes. Ball bearing. Pipe sizes 1/4" thru 5".



TYPE P
A single inlet unit for conveying gases or liquids into or out of revolving cylinders or drums. Ball bearing. Pipe sizes 1/4" thru 5".

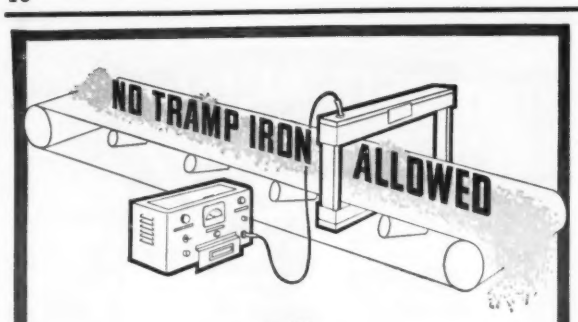
TYPE FSG
Designed for heavy duty service at high speeds, pressures, and temperatures. The body rotates with the machine journal as part of the machine. Available in both ball bearing and graphite bearing construction and in pipe sizes from 1¼" thru 5".

Other types of the Rotary Union are available for a wide range of applications. Ask for Bulletin No. 700.

*Trade Name—Patented

"WHERE *Good Connections* COUNT"®
PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Montreal—Toronto

▲ For more details circle **NED-155 L1** on enclosed inquiry slip ▲



with

DINGS DETECTORS

on the job

Why take a chance on tramp iron damage to expensive equipment? With the Dings Universal Series Detector policing your conveyor belts, spouts, troughs or slides, no iron or steel can pass through the search coil undetected. The Universal Series Detector is easily installed on existing conveyors and requires practically no attention for constant, automatic protection of processing equipment. It can automatically stop conveying or processing equipment when applied even on deep burdens traveling at high speed. With a wide range of sizes to meet your requirements, the Dings Universal Series Detector gives you the lowest cost tramp iron protection ever offered!

MD-160

Dings

Write for Bulletin 1901 for complete details

DINGS ELECTRONICS, INC.
Subsidiary of Dings Magnetic Separator Co.
4758 W. Electric Avenue
Milwaukee 46, Wisconsin

For more details circle NED-156 L1 on enclosed inquiry slip

Handiest TOOL IN THE PLANT!

NEW BULLETIN
Gives all the facts.
Ask for new Bulletin

CLEMENTS
Cadillac® BLOWER-SUCTION CLEANERS

Portable — versatile — economical. Simplest, quickest way to clean motors, machinery and other equipment. Pays for itself in any plant. Ask your dealer for a demonstration.

4 BLOWER-SUCTION MODELS
...including powerful Model HP with 2-speed motor for double duty. Easy starting at low speeds prevents blowing of fuses. All models available with attachments for handling many special tasks.

HANDLES 101 CLEANING JOBS
Blows dust, grit, chips and filings from hard-to-reach places. Use it as a suction cleaner for all kinds of jobs, or even to salvage bits of rare metal. Other models for annealing, soldering, and for preheating for bending.

BLOWER DIVISION | **CLEMENTS MFG. CO.**
6627 S. Narragansett Ave., Chicago 38, Ill.

SINCE 1910 Specialists in Quality Cleaning Equipment

For more details circle NED-157 L1 on enclosed inquiry slip

New 8-page FREE CATALOG
shows full line

HAVIR

"PRESS-RITE" O.B.I.'s

featuring the new HAVIR automatic roll feed

. . . this new catalog is loaded with specification facts that can help you a lot in choosing your next new presses. It presents our complete line of 2 Ton to 85 Ton PRESS-RITE O.B.I.'s. To get a copy for your reference file . . .

Clip this coupon and mail it today.

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Gentlemen: Please send us your new FREE 8-page catalog on HAVIR hi-production automatic presses.
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City ..... Zone .... State ....
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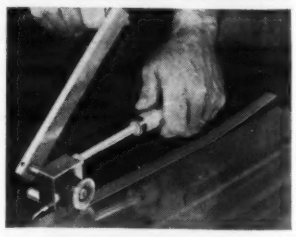
Title .....

For more details circle NED-158 L1 on enclosed inquiry slip

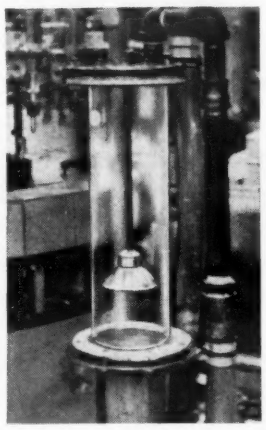
SHEET METAL TRIMMER
makes up to ¾-in. cuts



Improved Roll - A - Shear cutting and stripping tool will quickly trim aluminum and other light-gage metals without kinking, distorting, or marring the main sheet. Added adjustable guide wheel section with thumb screw for setting assures accurate, straight dimensional cuts. The crank-operated tool is maneuverable for cutting curves, scallops, and unusual angles. It can make strip cuts up to ¾ in. wide. • **Silver Lite Corp.,** Dept. RS-36, 2370 S. Park Ave., Buffalo 20, N. Y.

For more details circle NED-159 L1 on enclosed inquiry slip

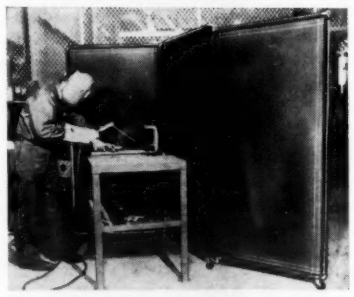
SONIC DEFOAMER
for liquid processing applications



Any quantity of foam entering the resonant chamber of the Airjet sonic defoamer is destroyed instantly and continuously by sonic energy. Applicable to liquid processing, it is made in a variety of diameters, lengths, and foam handling capacities. Defoamer is available with flanges for installation in all types of pipelines, outlets from kettles, distillation reactors, filling machines, and other foam-producing processes. System is operated by compressed air, steam, or other gases, without electronics or moving parts. • **Teknika, Inc.,** 634 Asylum Ave., Hartford 5, Conn.

For more details circle NED-160 L1 on enclosed inquiry slip

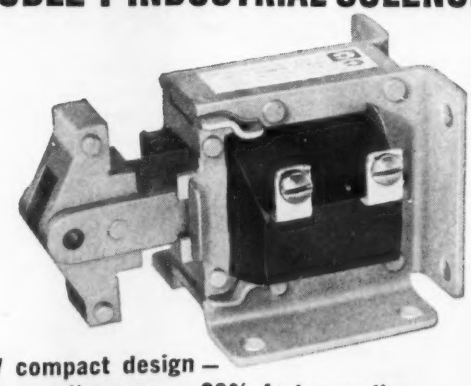
MOBILE WELDING BOOTH
heavy duck cover is removable



The 6 x 9-ft Can-Pro portable welding booth consists of a ¾-in. metal frame covered with a heavy, flame resistant duck. Four ball bearing casters facilitate moving the unit about. Lift-the-Dot fasteners allow removal of the cover when necessary. Booth can be folded for compact storage and easy handling, and is suited for use as a chip shield, paint spray enclosure, or for draft control. Price is $65. • **Can-Pro Corp.,** 19 E. McWilliams St., Fond du Lac, Wis.

For more details circle NED-161 L1 on enclosed inquiry slip

DOUBLE T INDUSTRIAL SOLENOID



NEW compact design — greater pull-power . . . 20% faster cycling

First time on the market — Controls Company's 831 series *industrial solenoid.* A new design with greater performance than some solenoids twice the size. Check these features:

- Double T plunger design gives more-level pull characteristics without power drop-off
- Frame and core protection by epoxy paint
- Heavy-duty universal mounting bracket — mounts in any position without removing screws
- Heavy-duty reinforced linkage

Write for Industrial Solenoid Bulletin SL-33 or Commercial Solenoid Bulletin SL-23

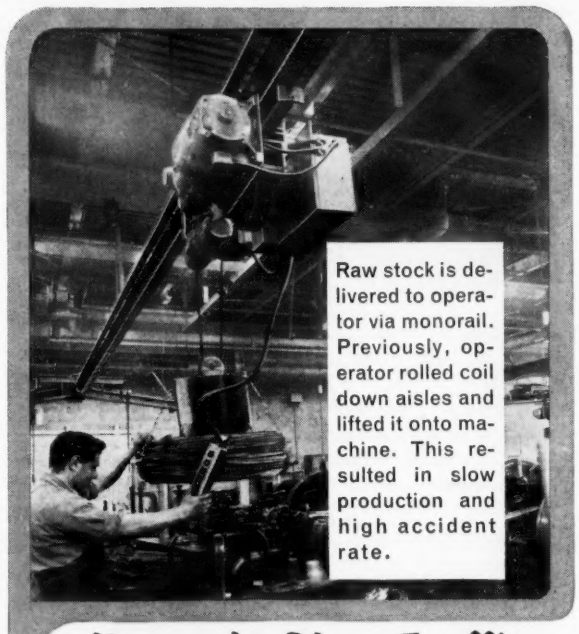
Creative controls for industry

CONTROLS COMPANY OF AMERICA
APPLIANCE AND AUTOMOTIVE DIVISION
9577 Soreng Avenue—Schiller Park, Illinois • Cooksville, Ontario • Zug, Switzerland

For more details circle NED-162 L1 on enclosed inquiry slip

BURSTEIN-APPLEBEE CO.
Dept. NED, 1012-14 McGEE ST., KANSAS CITY 6, MISSOURI

For more details circle NED-163 L1 on enclosed inquiry slip



Untangle Plant Traffic With Monorail

Clear the aisles for production . . . use monorail for materials handling. Suspended from the ceiling, a Louden Monorail Handling System removes traffic from the floor, saves floors for production. Not only does this untangle plant traffic, but also increases plant capacity and becomes a big factor in cutting cost of floor maintenance.

A Louden Monorail Handling System moves raw stock, semi-finished and finished products over the heads of men and machines, and its exceptional flexibility makes it ideal for all types of handling requirements. It can transport materials from point to point anywhere in your plant, either piloted by an operator or completely unattended. Materials can travel from floor to floor, building to building, opening and closing doors, pass through one processing stage after another, and even load and unload its own carriers with certain classes of materials.

When you have material handling requirements, call on Louden, the pioneer of monorail handling. Benefit by Louden's unequalled experience and broad array of service-proven equipment. Most Louden installations pay for themselves in months; some have done so in a matter of weeks.

Write today for "COST-CUTTING WITH MONORAIL AND CRANES" . . . 52 pages of illustrated applications, industry by industry.

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THE LOUDEN MACHINERY COMPANY
1112 Court, Fairfield, Iowa
A Subsidiary of Mechanical Handling Systems Inc.
Plants in Fairfield, Iowa and Clark, New Jersey
SINCE 1867 . . . THE FIRST NAME IN MATERIALS HANDLING

For more details circle NED-164 L1 on enclosed inquiry slip

TORIT

Torit Cyclone Separator Model. High efficiency collection of all types of dust, chips and shavings. Up to 95% of the dust is removed from the air, drawn into the top of cone by centrifugal force, and settled to the dust reservoir below. Clean air is exhausted outside the building or indoors through after filters.

Self contained, compact, portable steel units. End mounted motor and blower mounted in free air for cool operation, is detachable for servicing or relocation of outlet. Cones can be rotated for proper inlet location. Dust reservoir has pull-out drawer for easy cleaning. Individual capacities range up to 6500 cubic feet per minute. Larger units are built on special order.

Prices start at $335.

DUST COLLECTORS STOP LOSSES CAUSED BY DUST

- *machine wear*
- *absenteeism*
- *product damage*

With a Torit Dust Collector, machines stay clean, hold close tolerance up to 80% longer. Dust is kept off bedways, slides, and bearing surfaces. There are fewer accidents because work areas are clean and safe. Employees work more efficiently in clean air, their health protected. And there is no dust in the air to harm fine product finishes.

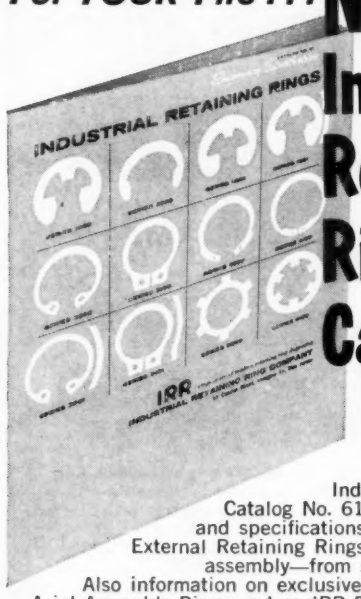
* For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 230

TORIT
MANUFACTURING CO.
1133 Rankin St. • St. Paul 16, Minn.

For more details circle NED-165 L1 on enclosed inquiry slip

For YOUR File . . .

New! Industrial Retaining Ring Catalog



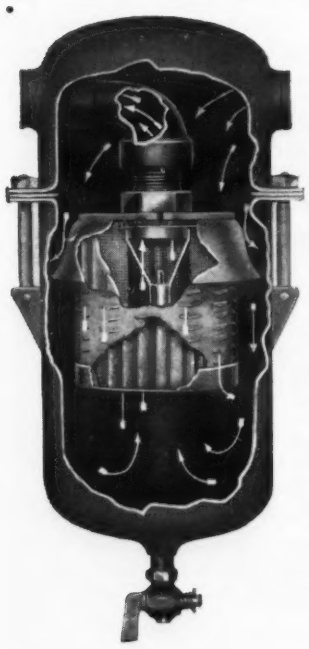
Industrial Retaining Ring Catalog No. 61 contains information and specifications on IRR Internal and External Retaining Rings—for axial and radial assembly—from sizes .040" to 4.125". Also information on exclusive IRR "PRE-STACKED" Axial Assembly Rings and on IRR Pliers and Accessories. It is easy to work with and will assist in design, purchasing and production.

Ask for Catalog No. 61.

IRR *Originators of modern retaining ring dispensing*

INDUSTRIAL RETAINING RING COMPANY
57 Cordier Street, Irvington 11, New Jersey

For more details circle NED-166 L1 on enclosed inquiry slip

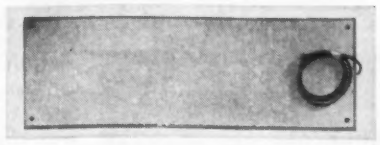


Protect air-operated equipment from impurities. Specify Dollinger Staynew Pipe Line Filters to eliminate pipe scale, dust, dirt, and condensate. Will operate in temperatures from −400°F to +1800°F. Simplified construction allows easy inspection for media cleaning or replacement. Economical, highly efficient. Consult your Dollinger representative for more details. Or, write for Bulletin 200. Dollinger Corporation, 49 Centre Park, Rochester 3, N. Y.

PROTECTOMOTOR STAYNEW **DOLLINGER** FILTERS

For more details circle NED-167 L1 on enclosed inquiry slip

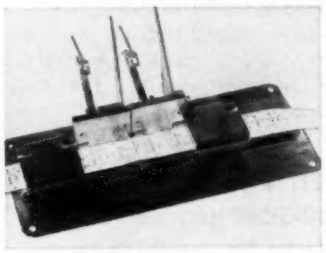
HEATED FLOOR PANEL
warms standing workers



Water, oil, and acidproof Thermo-Floor heat floor panel for spot use in industrial plants places warmth directly under the feet of the person standing on it. Rigid and nonbreakable, it withstands constant foot and wheel traffic, and is wireless and coilless in construction. Panel can be used around machinery, in gate houses, and near shipping docks, wherever cold or drafty floor conditions exist. Standard panel weighs 10 lb, consumes less than 100 w on 110-120 v ac, and has no metal parts. Wood grain finished model is available for office use. • **Plant Maintenance, Inc.,** Thermo-Industries Div., 623 Green Rd., Cleveland 21, Ohio.

For more details circle NED-168 L1 on enclosed inquiry slip

PUNCHED TAPE SPLICER
uses pregummed splicing tape



Splicing a torn five to eight-channel data processing tape within a message without character loss, forming of loops, and splicing at the end of a message code are possible with the Tape-File punched tape splicer. It uses a pregummed splicing tape, available in 11/16, 7/8, and 1-in. widths and 10, 25, and 100-ft lengths for use on oiled or nonoiled tapes. Increased thickness of spliced tape is less than 5 mils using paper splicing material, or less than 2 mils with special materials. Splicer has a 4 x 9-in. base, weighs 4 lb, and has built-in squaring shears for butt splices. • **Dresser Products Inc.,** Box 2035, Providence 5, R. I.

For more details circle NED-169 L1 on enclosed inquiry slip

MAGNETIC PUMP
for corrosive and caustic fluids

A magnetic field actuates the plunger, the only moving part in Model L-2145 magnetic pump for corrosive, caustic, nuclear, and other hard-to-handle fluids. Bore is lined with, and plunger is encased in, Type 304 stainless steel for corrosion resistance. Monel metal is also available. The 23.5 x 5.5-in. diameter unit shown delivers 4 gpm at 30 psi. It operates on 107 v dc power from rectified 115 v ac supply and requires 170 w. Units with both higher and lower flows and pressures are available for any desired voltage. • **G. W. Lisk Co.,** Clifton Springs, N. Y.

For more details circle NED-170 L1 on enclosed inquiry slip

Start with **Chemlon®** *The Best in Teflon*

Getting the full advantages of this material depends on the processing ability of your supplier to meet *all* of these qualifications:

1. **Fabricating experience, facilities and rigid quality control to supply a uniform, non-porous Teflon, free from flaws, thus eliminating rejects or malfunction of your end product.**
2. **Dimensional accuracy—carefully sized to industry specifications. Any waste of Teflon adds to its cost, and corrective finishing in your own shop unnecessarily adds production time and expense.**

Under the name, Chemlon, "John Crane" gives you full satisfaction on each of these points, plus engineering assistance.

Ask about your specific needs. Request Bulletins T-110 and T-122. Crane Packing Co., 6411 Oakton Street, Morton Grove, Illinois, *(Chicago Suburb).*
In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

**DuPont Trademark*

John Crane — MECHANICAL PACKINGS · SHAFT SEALS · TEFLON PRODUCTS · LAPPING MACHINES · THREAD COMPOUNDS
CRANE PACKING COMPANY
OFFICES IN ALL PRINCIPAL CITIES

For more details circle NED-171 L1 on enclosed inquiry slip

SO EASY TO USE IN SO MANY WAYS

Lyon Slotted Angle is the low-cost answer for bulk storing and stacking.

Write for free 100-page Lyon catalog

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

For more details circle NED-172 L1 on enclosed inquiry slip

LYON® FILING CABINETS

Quality Design All the Way

- **Easy rolling drawers** glide on six ball bearing and two floating rollers for smooth operation.
- **Double stops** — prevent drawers from being pulled out and spilled accidentally.
- **Drawers stay closed** — no rebound when drawers are slammed or when cabinet is used on uneven floors.
- **Drawers easily removed** — just open wide and lift. No catches to unlatch. Back of drawer has hand grip.
- **Rounded corners** on drawers and cross rails match the beauty of attractive, modern handles and label-holders. Cabinet finish, gray baked-on enamel.

Write for free 100-page Lyon Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

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LYON® STEEL EQUIPMENT

FREE! 100 Page Catalog

• Yours for the asking . . . this latest Lyon #100 catalog. 100 pages illustrating and describing in detail the world's most diversified line of steel equipment. Whatever your steel equipment requirements, this Lyon catalog will help you fill them better. Send for your copy.

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Yours for the asking—

Information For Your Files

ON DARNELL

CASTERS & WHEELS

Here's a book that should be in your files. Describes over 4000 types of Darnell precision engineered casters and wheels. Its detailed completeness enables you to specify the exact model to fit your individual needs, to meet all floor, equipment and load conditions with various top plates, stems, special fittings and rubber or steel tread wheels. 192 pages of helpful information that assures savings when you demand Darnell Dependability.

Call your **DARNELL DISTRIBUTOR**
Look in the Yellow Pages

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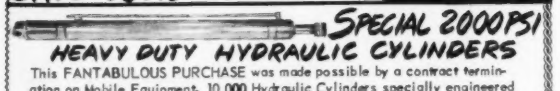
SAVE UP TO 85% on GOV'T SURPLUS palley's



SPECIAL 2000 PSI
HEAVY DUTY HYDRAULIC CYLINDERS

This FANTABULOUS PURCHASE was made possible by a contract termination on Mobile Equipment. 10,000 Hydraulic Cylinders specially engineered for Earth Moving Equip., Presses, Tail Gates, Industrial Machines, Lifts, etc.

Part No.	Bore	Stroke	Eye-to-Eye Length	Shaft Dia.	PRICE
H-70A	2-1/2"	8-3/8"	18-3/4"	1-1/2"	11.88
H-70B	2-1/2"	10"	21-1/4"	1-1/2"	13.88
H-70E	2-1/2"	30"	40-1/2"	1-1/2"	28.88
H-70G	3-1/2"	8"	19"	2"	21.88
H-70H	3-1/2"	10-1/4"	21-1/4"	2"	23.88
H-70M	3-1/2"	47"	64-1/2"	2"	59.88

HYD. HAND PUMP No. H-P3USU **6.75** Regularly $17.50
Capacity 1.5 cubic in. per cycle. Built-in check valve. 1500 PSI.

85 TO 1 GEAR DRIVE No. GB-112N **9.95**
For use where tremendous power at low take-off speed is desired. Drives through a train of 6 gears that rotate on self-lubricating, high speed roller bearings. Take-off shafts are 1-1/4" and 3/8" in diameter. Overall size 6"x4"x2-1/2". Has a 180° offset drive.

4 WAY HYDRAULIC VALVE No. H-V7A-1 **3.95**
Spring loaded, poppet type valve. Has 1/4" tube ports. Pressure balanced. Off in neutral position. Orig. cost $30.00

Other bargains in Gear Boxes, Speed Reducers, Transmissions listed in the Catalog below – Write for your copy!

JUST OFF THE PRESS!

WORLD'S MOST AMAZING CATALOG
196 PAGES of BARGAINS
NEW & USED GOV'T. SURPLUS • FACTORY CLOSE-OUTS

Packed with thousands of items of all types – at Palley's lower-than-wholesale 'DISCOUNT' PRICES. Included are Hand & Power Tools, the World's largest on-the-shelf stock of Hydraulic Cylinders, Pumps, Motors, Valves, etc.; Aircraft Instruments and Hardware, Electric Motors & Generators, Hobby Kits & "Gadgets" of all types, plus Sports & Outdoor Equipment. Save up to 85% on all Hydraulic Equipment! Catalog supply LIMITED — Order your copy today!

TO ORDER – Send Check or Money Order. P.O.s accepted from well rated D&B firms. 1/2 deposit with all C.O.D.s. All items are sent freight or postage collect. Order Catalog on Company Letterhead.

palley's 2263 E. VERNON AVE., Dept. NED-111 LOS ANGELES 58, CALIFORNIA

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Removes 20 lbs. of traffic-packed dirt per minute

TENNANT K-4 Floor Machine

Propels itself forward and reverse, has lightning-fast cleaning action!

SELF PROPELLING TENNANT K-4 Industrial Floor Machine removes grease-caked dirt, grime, metal cuttings, dried paint and other deposits . . . *all in one fast operation and without damaging floor surface!*

Saves man-hours. Removes up to 20 lbs. of traffic-packed dirt per minute; covers 500 to 1500 sq. ft. per hour. Cleans a 16" path, works close to walls and machines.

New features. Propels itself, forward and reverse; reverses instantly for extra clean pick-up. Has 30% larger pull-through filter for better dust control. Engine is 28% more powerful. Has a new, longer-wearing wire brush.

WRITE *for illustrated bulletin!*

TENNANT *Industry's Most Widely Used* **FLOOR MACHINES**

G. H. TENNANT COMPANY • 715M N. LILAC DRIVE • MINNEAPOLIS 22, MINNESOTA

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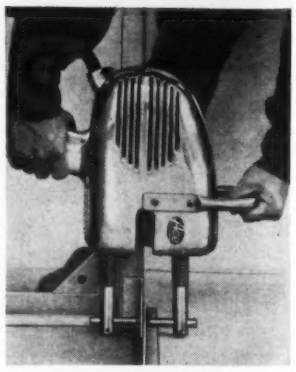
SPOT WELDER
has 3/16-in. cold rolled steel capacity and 3-in. tip opening



Manufacture or repair of cabinets, shelving, furniture, racks, and machinery; sheet metal fabrication; and stud welding are applications for the Ace 44 portable resistance type spot welder. From 200 to 300 light production welds can be made per hour. Capacity is 3/16-in. cold rolled steel and up to 1/8-in. combined thickness for stainless, galvanized, and cadmium plated steel. Sheets, rods, bars, and studs of various sizes and shapes can also be welded.

Welder can be used in any position, or with an accessory tripod stand or Roto-Holder. Its electronic timer has 1/60 to 1-sec adjustments. Other features are 100-amp contactor, independently suspended transformer, up to 1000-lb tip pressure, and up to 3-in. tip opening with 7-in. throat depth. The 12 x 13 x 5-in. unit weighs 26 lb and operates on 220 v. • **Ace-Sycamore, Inc.,** 448 DeKalb Ave., Sycamore, Ill.

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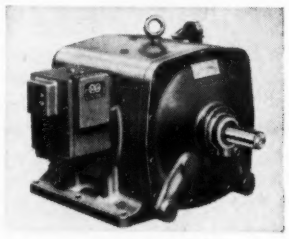
SERVO-CONTROLLED PUMPS
5-108 gpm, 1100-3000 psi units supply fluid power to machinery

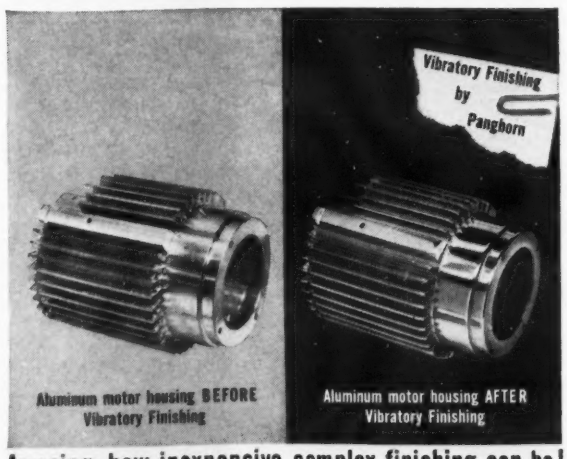


Any number of variable low level (5 w or less) electrical input signals from remote positions can accurately vary the flow rate from either directional port of DV line of two-way variable displacement pumps. Electrohydraulic servo-operated controls can vary pump displacement from zero to maximum in 0.15 sec on small units and in 0.25 sec on large units.

Pumps range in size from 13 to 169 gpm for pressures up to 1350 psi and from 5 to 108 gpm for pressures up to 2050 and 3000 psi. Two-way pump design cushions flow reversal. Flow and pressure decelerate to zero before flow ports are reversed by the pump.

Pumps and hydraulic motors are used to drive and control printing press rolls, crane hoists and windlasses, stretch forming machines, machine tool tables and heads, grinders and pipe casting machines. Pumps will also supply fluid power to cylinders of extrusion and forging presses, planers, press brakes, pipe benders, broaching machines, and other machinery. • **Oilgear Co.,** 1571C W. Pierce St., Milwaukee 4, Wis.

▲ For more details circle **NED-179 L1** on enclosed inquiry slip ▲



Amazing, how inexpensive complex finishing can be!

In some cases, Pangborn's Vibratory Finishing Machine has cut some finishing times *by over 90%*. It descales, deburrs, burnishes, radiuses, fine-finishes metal, plastic and ceramic parts . . . no matter how complex!

Exclusive air-cushioning system in every model. Variable speed controls, automated and auxiliary equipment, media and compounds available. Send parts with finish specifications for sample processing to Mr. William Brandt at:

Pangborn Corporation, 2400 Pangborn Blvd., Hagerstown, Md., Pangborn Canada, Ltd., 47 Shaft Rd., Toronto (Rexdale), Canada; or phone district office in Yellow Pages, "Sand Blast Equipment." Manufacturers of Vibratory Finishing, Blast Cleaning, Dust and Fume Control Equipment; Rotoblast® Steel Shot and Grit®.

Pangborn OF HAGERSTOWN

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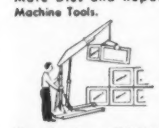
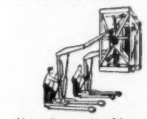
Stack-Or-Lift Palletized Loads.

Load Trucks and Lay Pipe with Convertible Mast.

Mate Dies and Repair Machine Tools.


Store Supplies and Finished Products.

Lift and Tilt Drums.


Move Large Machines with Dual Cranes.

FOR VERSATILE LIFTING POWER *specify* **RUGER MULTI-PURPOSE MOBILE HYDRAULIC CRANES**

NEW STACK-OR-LIFT ACCESSORY AVAILABLE For 1/2, 1 and 2 ton cranes.

Ruger mobile hydraulic cranes reach-in-under-over . . . lift more for less. Only Ruger enables one man to combine almost all lifting, stacking and moving jobs into one operation. Ruger Multi-Purpose crane models are: floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable legs and retractable outrigger for side lifting. Variable speed hydraulic controls at no extra charge. Electric models optional. Get the facts about versatile lifting power, send for data today.

RUGER The Crane with 1000 uses . . . capacities 1/4 to 3 ton.

RUGER EQUIPMENT INC.
619 West Fourth St.,
Uhrichsville, Ohio

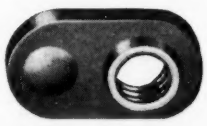
▲ For more details circle **NED-181 L1** on enclosed inquiry slip ▲

OHIO WELD NUTS

Patent No. 2908310

RN NUT—for projection welding. Ideal where tension is against the weld.
Thread Sizes:
#6-32 to 1/2-13

ND NUT—for spotwelding. Used where large nut is needed for bridging two sheets or for extra strength.
Thread Sizes:
#6-32 to 3/8-16



PN NUT—for projection welding. Ideal in confined areas, to heavier gages and on curved surfaces.
Thread Sizes:
#6-32 to 3/8-16

XN NUT—for spotwelding with recessed target electrode area. Full range of sizes can be welded with 20 KVA Welder.
Thread Sizes:
#6-32 to 3/8-16

Samples and information furnished upon request.

The OHIO WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
14 FIRST AVENUE BEREA, OHIO

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ACRAGAGE Pneumatic Transmission System

Instant Reading of Remote Pressures

Get instant readings from any number of remote points with this Acragage team . . . available in a variety of ranges for every need, requiring only a 20 psig air supply for readings within 1/2 of 1%. (Also available in electric version.)

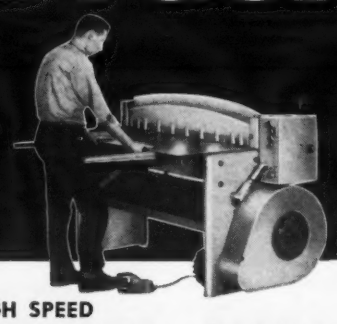
For complete specs on Acragage transmitters, receivers and complete systems that deliver high-level efficiency at minimum cost, send today for Catalog VY-G.

Robertshaw Robertshaw-Fulton Controls Company

FULTON SYLPHON DIVISION, KNOXVILLE 1, TENN.

▲ For more details circle **NED-183 L1** on enclosed inquiry slip ▲

Di-acro



HIGH SPEED
POWER SHEAR

Cutting action takes place in 1/5 of a second . . . up to 160 strokes per minute. Power Shear No. 48 is Di-Acro engineered for high speed precision shearing of materials as heavy as 16 gauge mild steel up to 48" wide. Adjustable non-drag brake. Rugged, welded steel construction assures efficient, accurate and trouble free performance. Also hand models 6, 12, 24, 36 in. widths.

Ask your Di-Acro distributor for details or write us.

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
7811 Eighth Ave. • Lake City, Minn.

For more details circle NED-184 L1 on enclosed inquiry slip

Di-acro

PRECISION
PUNCHES and DIES

For accurate hole location the centering point on the punch is ground absolutely concentric to the cutting edge—there's no "slop" even when several holes are punched in a blank. Precision made of high quality tool steel. Over 500 standard sizes in 12 standard styles available for immediate delivery from factory and distributor stocks.

Ask your Di-Acro distributor for details or write us.

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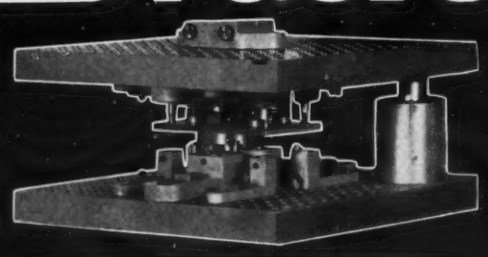
For more details circle NED-185 L1 on enclosed inquiry slip

Di-acro



ADJUSTABLE
PUNCHES and DIES

A time and money saving means of rapidly tooling for simultaneous punching of multiple holes in a variety of shapes and sizes. All tooling can be reused again and again. Available with round, oval, rectangular, square and special irregular shapes.

Ask your Di-Acro distributor for details or write us.

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
7811 Eighth Ave. • Lake City, Minn.

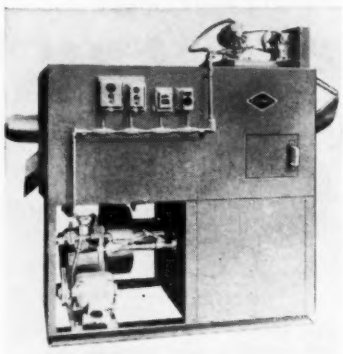
For more details circle NED-186 L1 on enclosed inquiry slip

HEAT MITT
for safe handling of 1000° F bars

Eterna-Hide leather used in the outer layer of this flexible and comfortable heat mitt withstands scorching and hardening. Inside the mitt is a layer of insulating foam and a layer of silvercoated asbestos to reflect radiant heat. In one application, the mitt was used to handle 5-ft long bars, formed at over 1000° F, at 20 to 30 sec intervals for about 10 to 15 sec. Replaceable Eterna-Hide hand pads fit over mitt to lengthen its life. • **Advance Glove Mfg. Co.**, 901 W. Lafayette Blvd., Detroit 26, Mich.

For more details circle NED-187 L1 on enclosed inquiry slip

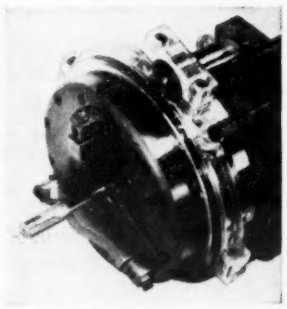
ROTARY DRUM DRYER
handles small parts in bulk form



Provided with a 24-in. diameter drum, this rotary drum drying machine handles miscellaneous small parts in bulk form after plating. Machine is gas heated and recirculates hot air for maximum economy. Fire box, and heating and blower assemblies are located under the drum and out of the way. Completely assembled and wired machine occupies a floor space of only 3 x 6 ft. • **Alvey-Ferguson Co.**, 3131 Disney St., Cincinnati 9, Ohio.

For more details circle NED-188 L1 on enclosed inquiry slip

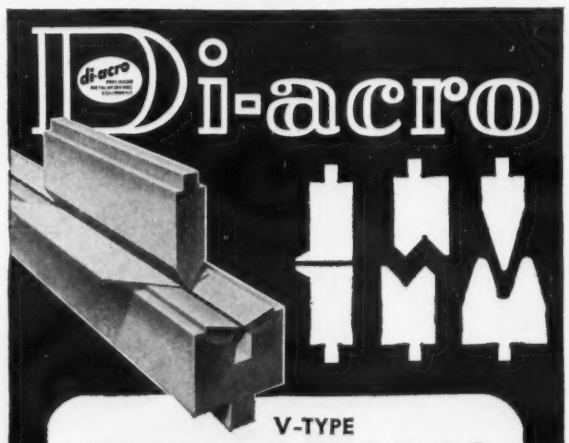
AIR COUPLING
for use on chucking equipment



Periphery controlled idler air coupling for use on chucking equipment has self-contained recessed air cylinder with intake and exhaust air ports. Air actuation is accomplished by introducing air through the cylinder wall. Design allows center of a chuck to be open for through feeding of bar stock or for gaging equipment. Once chuck is loaded, and air turned off, work spindle can be started and run without friction at any desired speed. • **N. A. Woodworth Co.**, 1300 E. Nine Mile Rd., Detroit 20, Mich.

For more details circle NED-189 L1 on enclosed inquiry slip

Di-acro



V-TYPE
PRESS BRAKE DIES and ROL-FORM DIES

Choose from a complete selection of heat treated V type press brake dies designed to fit all makes of press brakes. Standard lengths to 12 feet. Investigate the new Rol-Form dies that eliminate work marking on highly polished or painted materials. Most standard cataloged sizes can be shipped from factory stock.

Ask your Di-Acro distributor for details or write us.

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
formerly O'Neil-Irwin Mfg. Co.
7811 Eighth Ave. • Lake City, Minn.

For more details circle NED-190 L1 on enclosed inquiry slip

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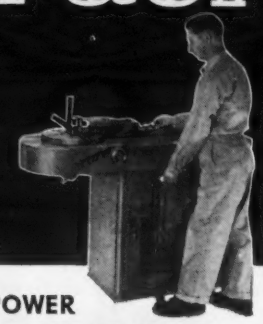

HYDRA-POWER
BENDER

Hydraulically operated for high speed. Accurately bends simple and complex shapes in a variety of materials. Bending capacity to 1" round mild steel bars and 1½" 16 gauge steel tubing. Delivered completely tooled or tooling can be done in your shop if you prefer. Hand operated benders with radius capacities from 2" to 12" are also available.

Ask your Di-Acro distributor for details or write us.

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
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7811 Eighth Ave. • Lake City, Minn.

For more details circle NED-191 L1 on enclosed inquiry slip

Di-acro

25 TON HYDRAULIC
PRESS BRAKE

Operator has complete control at all times. He pre-sets the stroke length and speed, and can "inch" or reverse the ram at any point. Dual speed operating cycle prevents whipping or kinking—increases production. Either 6 or 8 foot bed models. Also available in a 12 ton series, practical for sample work and both short and long run production.

Ask your Di-Acro distributor for details or write us.

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
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7811 Eighth Ave. • Lake City, Minn.

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Di-acro

NEW 32 PAGE
di-acro
CATALOG
NO. 61

If you'd like complete information on Di-Acro machines or specific product knowledge—it's yours for the asking. Just clip this advertisement, check off the items in which you're interested and mail it to us.

- ☐ New 32 page Di-Acro Catalog No. 61
- ☐ Hydra-Power Bender
- ☐ 12 Ton Press Brake
- ☐ 25 Ton Press Brake
- ☐ Adj. Punches & Dies
- ☐ Press Brake Dies
- ☐ Rol-Form Dies
- ☐ Punches and Dies
- ☐ Power Shear

Name _____ Title _____
Company _____
Address _____

di-acro PRECISION METALWORKING EQUIPMENT
DI-ACRO CORPORATION
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7811 Eighth Ave. • Lake City, Minn.

For more details circle NED-193 L1 on enclosed inquiry slip

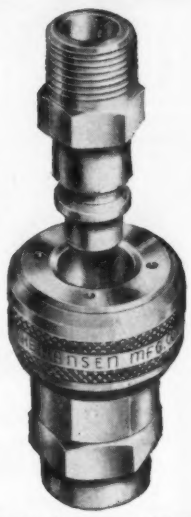
Ruggedly Built

—AND THOROUGHLY PROVED BY YEARS OF HARD EVERYDAY USE IN THOUSANDS OF PLANTS

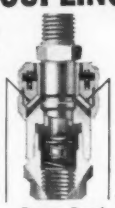
HANSEN

QUICK-CONNECTIVE

PUSH-TITE COUPLINGS



• To connect a Hansen Push-Tite Coupling, you merely push the Plug into the Socket—as easily as plugging in your electric shaver. Flow is automatic—instantaneous. Plug swivels freely—no kinking of hose. To disconnect, pull back sleeve on Socket. Instantly and automatically, Socket shuts off flow of air or liquid.



Tamper-Proof Socket Head — with leak-proof, minimum-wear, locking device.

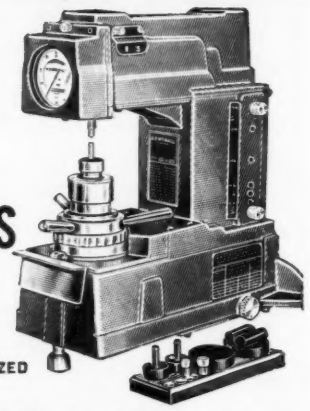
Write for the Hansen Catalog — a ready reference when you want information on couplings in a hurry. Lists complete range of sizes and types of Hansen Two-Way Shut-Off, One-Way Shut-Off, and Straight Through Couplings.

Representatives in Principal Cities ... See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle NED-195 L1 on enclosed inquiry slip

Kentrall* 2 for 1 HARDNESS TESTER DOES DOUBLE DUTY



MOTORIZED

Gives fast, precise, highly reproducible readings on BOTH the Regular and Superficial Rockwell scales. Costs about the same, though motorized, as one single-scale hand-operated instrument. Ball and diamond indenters and 15 to 150 Kg major loads extend Riehle-Kentrall versatility. Choose 4", 8", 12" or 16" vertical capacity models, all with 5¾" horizontal reach.

For a demonstration, write Dept. NEDK-1161.

Riehle®

RIEHLE TESTING MACHINES DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

*Trademark

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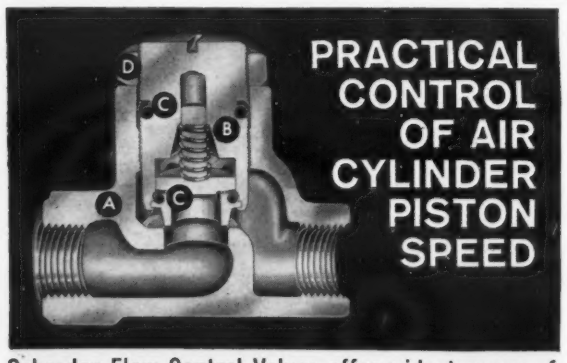


PRACTICAL CONTROL OF AIR CYLINDER PISTON SPEED

Schrader Flow Control Valves offer widest range of adjustments for near perfect accuracy . . . zero to full

USE: In the inlet port of single acting cylinders to reduce piston speed while maintaining driving force . . . in exhaust ports of double acting cylinders to meter exhaust air and control cylinder piston speed accordingly.

FEATURES: Vernier-like screw adjustment, with fine thread, is not oversensitive to slight adjustment and can be adjusted quickly and accurately. Large tapered seat is self-cleaning. Suitable for air pressures to 400 psi. and oil or water pressures to 800 psi. Five sizes ⅛" to ¾".

CONSTRUCTION: See illustration. A . . body of cast brass to withstand abuse. B . . compact plunger assembly is replaceable in one unit. C . . airtight "O" ring . . . or seal. D . . heavy duty lock nut holds adjustment under vibration and shock.

CONSULT YELLOW PAGES FOR YOUR NEARBY DISTRIBUTOR OR WRITE

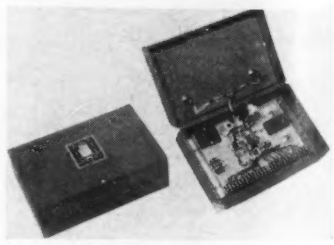
Schrader® a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co., Inc.
459 Vanderbilt Ave., Brooklyn 38, N. Y.

QUALITY AIR CONTROL PRODUCTS

For more details circle NED-197 L1 on enclosed inquiry slip

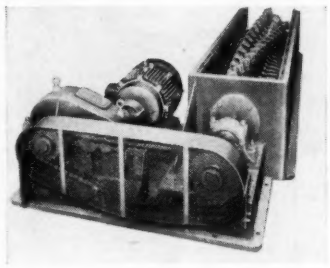
TIMER CONTROL
gives timed-on, timed-off intervals



Timed "on" intervals from 1/16 to 5 sec and timed "off" intervals from 1/16 to 30 sec are separately adjustable on the Protectal electronic timer. Step switch consecutively energizes up to 24 external circuits for a wide range of precise pulsing operations, such as on-off valve operation, dust collector timing, and life testing of new equipment. Unit operates on 115 v ac and incorporates a single electronic tube. Open type chassis is available for panel mounting. • **Protection Controls, Inc.**, 7317 N. Lawndale Ave., Skokie, Ill.

For more details circle NED-198 L1 on enclosed inquiry slip

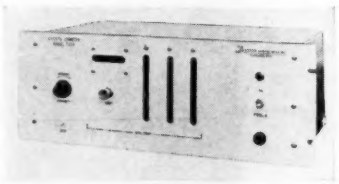
CONTINUOUS MIXERS
14 single and double shaft models



Virtually any material from iron ore to fine chemical powders can be handled in this line of continuous mixers. Fourteen standard sizes are made in single and double shaft types with capacities from 150 lb per hour to 100 tons per hour. They are made of carbon or stainless steel, aluminum, and various alloys; can be jacketed; and can be built to code. Adjustable pitch paddles, minimum dust formation, and low level of vibration in operation are features. • **Falls Industries, Inc.**, Aurora Road, Solon, Ohio.

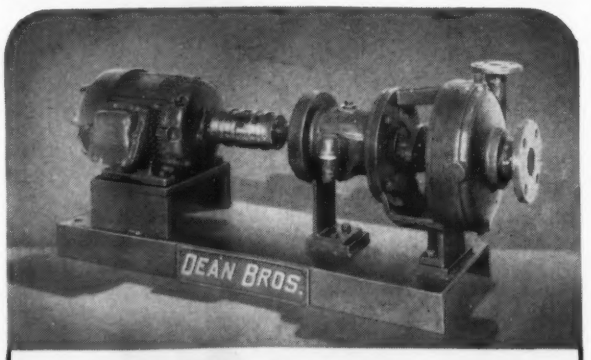
For more details circle NED-199 L1 on enclosed inquiry slip

HIGH SPEED COUNTER
five models have 7 to 10 digits



Flexible modular Model T276 event counter with electronic readout can be modified to fit a variety of applications. Five models range from a seven-digit 500-per second, 166-hr test time unit to a ten-digit, 100,000-per second, 277-hr test time unit. Used with a suitable transducer, such as a contact switch, photoelectric cell, or motion sensing device, it will read total flow or linear feet, count pieces on a production line, measure fatigue flexures or total revolutions, and life-test high speed static relays. • **Avtron Mfg., Inc.**, 10409 Meech Ave., Cleveland 5, Ohio.

For more details circle NED-200 L1 on enclosed inquiry slip



For Greatest Savings in Pumps
Get a Dean Brothers GS

Here is the pump that put *service* back into pumps. And with Dean Brothers exclusive service parts policy, no worry about down time waiting for obsolete replacement parts . . . there are no such things. One day delivery. Consult yellow pages for nearest representative, or wire, phone or TWX direct for fast dependable service.

Type GS Standard Centrifugal Pumps
For general, Industrial and chemical service
Capacity: to 300 gpm @ 1750 rpm—to 600 gpm @ 3500 rpm
Head: 20 to 80 ft @ 1750 rpm —80 to 300 ft @ 3500 rpm
Pumping Temperature: —150° F to plus 350° F
Working Pressure: to 180 psig @ 350° F

For Full Information Ask for Circular 190

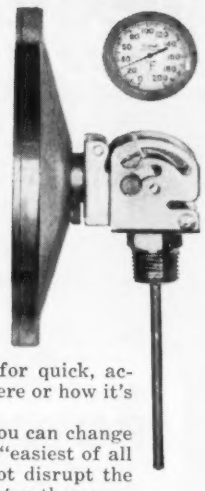
DEAN BROTHERS PUMPS INC.
INDIANAPOLIS 7, INDIANA
The Best Is Our Standard

For more details circle NED-201 L1 on enclosed inquiry slip

New Rochester

"ANY-ANGLE" THERMOMETER

adjusts easily to any viewing position...



Fully adjustable to any angle for quick, accurate reading regardless of where or how it's mounted.

With the new "Any-Angle," you can change the viewing angle at any time—"easiest of all to adjust." Its flexibility will not disrupt the top performance of this *Rochester* thermometer's precision made parts.

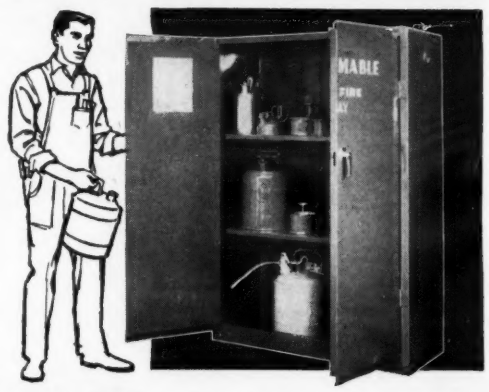
Write for complete information:

American-Standard, Controls Division
Rochester Instruments Plant
114 Rockwood St., Rochester 10, N. Y.

ROCHESTER

AMERICAN-Standard
CONTROLS DIVISION

For more details circle NED-202 L1 on enclosed inquiry slip



FLAMMABLES STORAGE CABINET

SAVES TIME
IMPROVES HOUSEKEEPING
ENSURES SAFER HANDLING

Protectoseal Flammables Storage Cabinets permit safe concentration of up to 45 gallons of flammables in on-the-job locations—save production workers' time by permitting quick re-filling of "use" containers. 2 shelves are adjustable for height. Designed and built to NFPA Specifications. Double doors provide quick, easy access. Lockable. Equipped with fire-baffled vapor vent openings. Size: 43" wide x 65" high x 18" deep.

Write for illustrated catalog sheet, prices, and delivery.

21

THE PROTECTOSEAL COMPANY
1964 South Western Avenue Chicago 8, Illinois

For more details circle NED-203 L1 on enclosed inquiry slip

AIR CUTS OFF AUTOMATICALLY

Handy, versatile A-10 Air Gun shoots air where you want it, when you want it. Flex nozzle when you want air, toss hose aside when you don't. Made of grease-resistant Neoprene and machined brass. No handles, levers, springs or packing. Can't clog, break, or get out of adjustment. Hardened and plated steel tip prevents damage from dropping or dragging.

FITS ¼" IRON PIPE THREAD

Write today for catalog and price sheets to

HECKETHORN MFG. & SUPPLY CO.
DYERSBURG, TENN.

"Makers of Flex-Tip Water Nozzles"

For more details circle NED-204 L1 on enclosed inquiry slip

CARTRIDGE, TUBULAR, STRIP, VANE, OR INSERTION . . . there are General Electric heaters for every surface heating job. Insert them into, or cast them in, or clamp them on the surface to be heated. For "spot" *or* large-surface heating, select a G-E Calrod® heater . . . models available 300 to 5000 watts in General Electric's complete line of heating equipment.

FREE 48-PAGE CATALOG with completely indexed heaters and heating control prices, application tips, tables, and curves. Write Section 757-06, General Electric Co., Schenectady 5, N. Y.

GENERAL ELECTRIC

For more details circle **NED-205 L1** on enclosed inquiry slip

So many ways the *FISHER/MAN* can give you a helping hand with the

WIZARD II
PRESSURE CONTROLLERS

- Two Position Controller
- Proportional Controller
- Proportional Controller —Remote Set
- Differential Proportional Controller
- Pressure Transmitter
- Differential Proportional Controller—Remote Set
- Proportional Reset Controller
- Differential Proportional Reset

This "Jack of ALL Trades" is surprisingly low in cost

The partial list of applications at left tells you why the Wizard II is so aptly named. Probably no other controller in the Fisher line is as versatile. Available in brass, steel or stainless steel Bourdon tubes for ranges from 25 to 10,000 psi. Brass or stainless steel bellows available for low pressure service from 30" Hg Vacuum to 30 psi. Write for Bulletin D 4150 A.

IF IT FLOWS THROUGH PIPE ANYWHERE IN THE WORLD . . . CHANCES ARE IT'S CONTROLLED BY . . .
FISHER GOVERNOR COMPANY
Marshalltown, Iowa / Woodstock, Ontario / London, England
CONTINENTAL EQUIPMENT CO. DIVISION, Coraopolis, Pennsylvania

FISHER Controls SINCE 1880

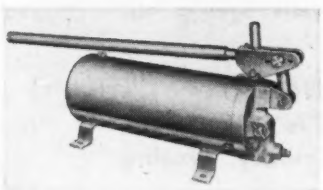
For more details circle **NED-206 L1** on enclosed inquiry slip

AXIAL POSITIONER & ACTUATOR
for direct, reverse valve operation

Any of six Masoneilan valves can be made to serve in any of four different ways with this axial positioner and actuator combination. Both units are invertible so that the valve can be installed for direct (air to close) or reverse (air to open) operation. Positioner is mounted on top of the diaphragm case for direct action, or between case and yoke for reverse action. Combination makes possible a small, compact control valve for lab, pilot plant, or process applications where accurate control of small to medium flows is required. It can be used with Series 20000, 24000, 25000, and 26000 globe bodies, or Series 70000 or 74000 angle bodies, in sizes from 3/8 to 1 in. • **Worthington Corp.**, Mason-Neilan Div., 25 Nahatan St., Norwood, Mass.

For more details circle **NED-208 L1** on enclosed inquiry slip

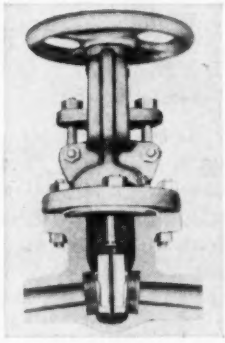
HYDRAULIC HAND PUMP
has triple range selection



Maximum flow of 1.25 cu in. per stroke at 1500 psi is delivered by the Tri-Powr hydraulic hand pump. Minimum flow is 0.60 cu in. per stroke at 3500 psi. It has a triple range of pressure-volume rates and is equipped with a hardened, removable inlet check seat. An Alnico magnetic plug removes small ferrous particles in the hydraulic system. • **Prince Mfg. Corp.**, 413 Water St., Sioux City 3, Iowa.

For more details circle **NED-209 L1** on enclosed inquiry slip

POSITIVE SHUTOFF BI-VALVE
features self-conforming discs

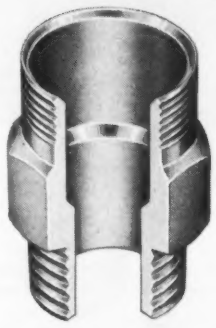


Swivel principle of Bi-Valve discs permits them to conform individually to seat faces, even with severe pipe strain or distortion due to temperature swings. The self-conforming, positive shut-off valve is made of steel in sizes from 2 in. up in all pressure classes. They have many chemical, petroleum, power, and marine applications, and may be used in place of double valving. Discs can be changed or reversed without removing valve from line. • **Chapman Valve Mfg. Co.**, 203 Hampshire St., Indian Orchard, Mass.

For more details circle **NED-210 L1** on enclosed inquiry slip

COLD IMPACT EXTRUSIONS

In steel, brass, aluminum and stainless steel



High speed automatic equipment, designed and built by Jacobson, for cold impacting and secondary operations, has resulted in substantial economies in high production items.

Impacted Fitting • 67% saving

JACOBSON NUT MFG. CORP.
Kenilworth, New Jersey

For more details circle **NED-212 L1** on enclosed inquiry slip

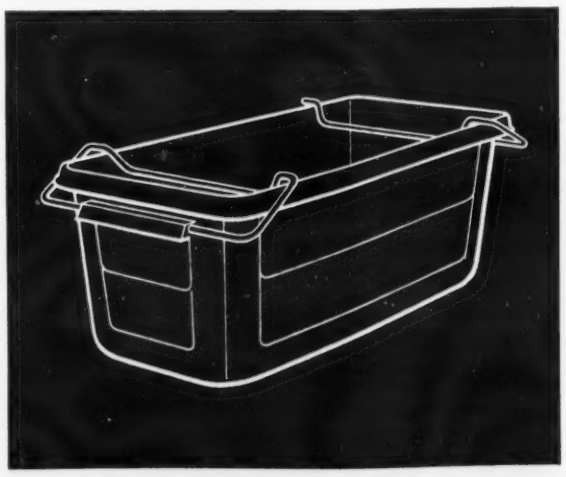
Available in Stainless Steel, Brass, Aluminum and Steel
JACOBSON NUT MFG. CORP. KENILWORTH, N.J.

For more details circle **NED-213 L1** on enclosed inquiry slip

Let wear·ever move it

Even the women in your plant can handle lightweight Wear-Ever aluminum trucks. This newest addition goes like lightning, yet stands up to long, hard use. One-eighth-inch thick, heavy-duty aluminum base. Eight-inch diameter rubber-tired casters roll smoothly over uneven floors. Special panels (two sides, one end) turn 47" x 23" flat bed truck into a panel truck. Send reply card for full details on this and other Wear-Ever trucks; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate delivery. A-5440-3

For more details circle **NED-207 L1** on enclosed inquiry slip



Let wear·ever store it

Common-sense design, that's where Wear-Ever shines. For example, Wear-Ever makes tote boxes with special handles that permit stacking when full—nesting when empty. After that you have Wear-Ever's superior construction going for you. Extra-heavy-gauge aluminum alloy, no seams to catch parts (or dirt). Wear-Ever stocks popular sizes with dollies to fit—for immediate delivery. Send reply card for full details on these and other rectangular containers; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. A-5440-5

For more details circle **NED-211 L1** on enclosed inquiry slip

Let wear·ever keep it handy

Save amazing amounts of time. Keep parts or material at workers' finger tips in Wear-Ever mobile bins. Round, square—27-, 30-, 38- and 50-gallon capacity—all made of tough, nonsparking aluminum alloy. No seams or crevices to collect dirt (or small parts). Hard rubber wheels or casters for long wear. Send reply card for full details; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate shipment from stock. A-5440-1

For more details circle **NED-214 L1** on enclosed inquiry slip

WATER-OPERATED SUMP PUMP WORKS AUTOMATICALLY

Ejector-type sump pump utilizes kinetic energy of water under pressure to evacuate liquids from sumps, tanks, pits. When liquid accumulates, ball float rises, opens snap valve to begin operation. When liquid level falls, float drops, closes valve and pumping stops. Steam-operated types also available. See below.

Ask for Bulletin 2M (water) or Bulletin 2A (steam)

Schutte and Koerting COMPANY
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.
Phone: MErcury 9-0900 TWX: Cornwells, Pa., 69-"U"
JET APPARATUS • ROTAMETERS • GEAR PUMPS • VALVES • HEAT EXCHANGERS
For more details circle NED-222 L1 on enclosed inquiry slip

Bright New Star on the Sweeper Horizon
The All-New Wayne STARSWEEP 1054!

Wayne—world's leading name in sweepers—presents the super-rugged, powerful new **STARSWEEP 1054** . . . *the most important advance in Power Sweeping ever made!* This husky, compact, maneuverable, built-to-last beauty has every feature you've ever wanted . . . exclusive *job-engineered* features that make Power Sweeping pay for itself as never before! With its 62" sweeping swath and 16 cubic foot hopper capacity the **1054** is the biggest Power Sweeper made. You sweep the biggest areas—acres outside and miles of aisles inside—with ease and speed. **STARSWEEP'S** exclusive new hydra-mechanical drive provides both *infinitely variable* travel speeds (0-12 MPH) and *constant* broom and vacuum blower speeds for super-efficient sweeping.

Full-floating main and hydraulically driven side brooms adjust automatically to every sweeping condition. 54" expandable main broom can be changed in minutes *without tools.* **STARSWEEP'S** exclusive new Filter-Vac enclosed dust control system with huge 78 square foot filter area provides the ultimate in dust-free operation under all conditions . . . disposable filters are cleaned with the flick of a lever. Convenient automotive controls assure quick, safe, efficient and comfortable operation.

There is so much *more* to tell . . . *more* in sweeping ability, performance, economy, dependability, local parts and service. Get the facts. See and compare. Find out for yourself how the **STARSWEEP 1054** can save you time and money. The full story is yours for the asking. ***Write for the new Starsweep brochure today.***

WAYNE
WAYNE MANUFACTURING CO.
main office and plant
2013 EAST LEXINGTON STREET, POMONA, CALIFORNIA
branch offices
ATLANTA • CHICAGO • NEWARK
For more details circle NED-223 L1 on enclosed inquiry slip

ELECTRONIC GAGING SYSTEM
reads out 24 different gage points and will print permanent record

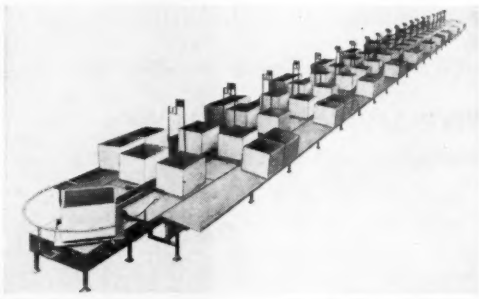
Electronic gaging probes used in this electronic gaging system measure 3/8 in. diameter by 2 13/32 in., yet have a sensitivity to 0.000001 in. They are used in place of dial indicators or air probes, and have flexible connecting wires which allow placing of check points in difficult locations, such as the interior of hollow parts.

Model CS-24 console reads out as many as 24 probes, showing the location and variation in lighted 1-in. high numerals. A permanent record is printed on tape, cards, or stickers, if desired. Readout of probes is made either individually when the proper button is touched, or automatically in sequence. With careful setup, accuracy to 0.0001 in. is possible. System will also read the variation in nominal part thickness between any two opposed probes. • **Winslow Mfg. Co.,** 1751 E. 23rd St., Cleveland 14, Ohio.

For more details circle NED-224 L1 on enclosed inquiry slip

CAROUSEL CONVEYOR
modular design is suited for production, assembly, testing

Three basic interchangeable components of the Tota Tray carousel conveyor are the drive-end unit, intermediate sections, and the take-up end assembly. Modu-

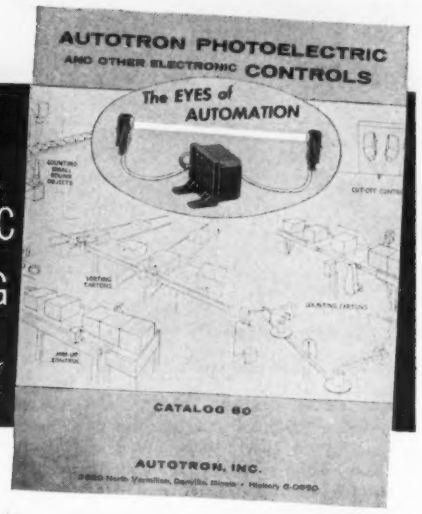


lar design allows conveyor assembly to exact height, length, and speed to meet production, assembly, testing, selective packaging, or order packing applications.

Continuous flow of closely nested load carrying pans affords maximum work and conveying area in minimum floor space. Parts or products of up to 30 lb per pan can be conveyed at speeds up to 50 fpm. Motor-driven endless chain to which the pans are attached forms two parallel conveyor lines that are accessible from both sides. A stationary work bench extends the full length of each side. • **Richards-Wilcox Mfg. Co.,** 800 Third St., Aurora, Ill.

For more details circle NED-225 L1 on enclosed inquiry slip

NEW PHOTO-ELECTRIC CATALOG
Send for your copy TODAY



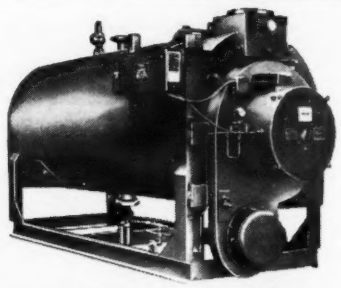
Describes transistorized and conventional photoelectric controls — normal, high speed, ultra sensitive and impulse actuated controls — photoelectric timing controls — complete line of light sources — including many protective features.

Simplified application diagrams cover widely varied requirements such as automatic control of conveyors; inspection, sorting, die protection, counting, weighing, limit control, car washing control, piling to exact count, safety control, conveyor traffic and jam-up control, timing control, spraying automation, automatic ramp traffic control.

AUTOTRON, INC.
Box 722-D Danville, Ill.
Representatives in principal cities

For more details circle NED-227 L1 on enclosed inquiry slip

$ savers!

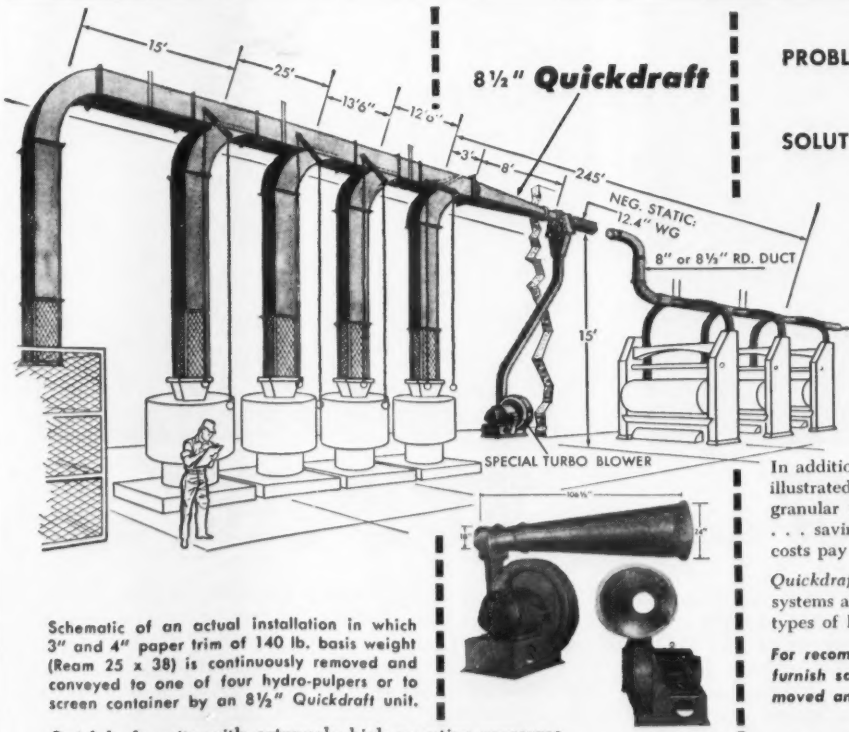


Continental 2-PASS
AUTOMATIC BOILERS

• Cost less to buy, operate and maintain • Guaranteed 80% minimum efficiency with oil and equivalent with other fuels • Longer life with balanced internal circulation and uniform heating of boiler surfaces • Time-saving fireside accessibility with hinged front door, davited rear door • No costly complex refractory at front or rear • Guaranteed low stack temperature • From 20 to 50% *efficient* reserve capacity obtainable in "F" Models • Front or rear tube removal • Completely factory-assembled and fire-tested • Fast steaming • Space-saving compactness • Completely automatic operating and safety controls • Quiet operation • Sizes 15-600 hp., 15-250 psi., steam or hot water for process or heating service • Now available on Lease or Time-Payment Plan • Nationwide sales and service • Ask for Bulletin BE-400.

CONTINENTAL BOILER DIVISION
Boiler Engineering & Supply Co., Inc.
Phoenixville, Pennsylvania

For more details circle NED-228 L1 on enclosed inquiry slip



Schematic of an actual installation in which 3" and 4" paper trim of 140 lb. basis weight (Ream 25 x 38) is continuously removed and conveyed to one of four hydro-pulpers or to screen container by an 8½" *Quickdraft* unit.

Quickdraft units with extremely high negative pressures are available in 4½" to 30" diameters in plastic-coated steel, No. 316 Stainless Steel or rigid plastics for corrosion resistance.

Patents 2,722,372 and 2,855,874 and Patents Pending plus Exclusive Foreign Patents.

PROBLEM: High speed removal and disposal of paper trim

SOLUTION: *Quickdraft* VACUUM SYSTEM

VELOCITY: 7,016 FPM.
NEG. STATIC, WITH DUCT CLOSED: 19.2" WG

Quickdraft high-pressure vacuum systems have proven extremely successful, efficient and economical in solving materials handling problems. In addition to paper or plastic film trim, the system illustrated could convey any bulk, powdered or granular material that can be moved by air. And . . . savings in labor, down-time and replacement costs pay for *Quickdraft* units in 12 to 24 months!

Quickdraft units also are used for industrial exhaust systems and to increase combustion efficiency in all types of heating plants.

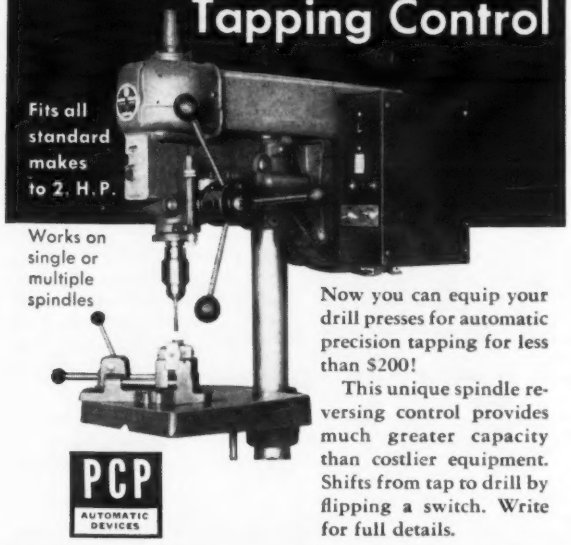
For recommendations on materials handling, please furnish sample of material, distance material to be moved and sketch of proposed installation.

Quickdraft CORPORATION P.O. Box 1353-L, Sta. C. Canton S.W., Ohio

For more details circle NED-226 L1 on enclosed inquiry slip

Power Control Products presents . . .

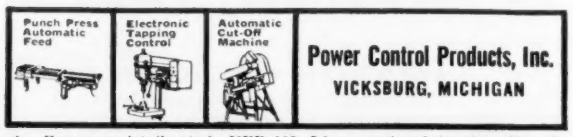
NEW ELECTRONIC Tapping Control



Now you can equip your drill presses for automatic precision tapping for less than $200!

This unique spindle reversing control provides much greater capacity than costlier equipment. Shifts from tap to drill by flipping a switch. Write for full details.

PCP AUTOMATIC DEVICES



Power Control Products, Inc.
VICKSBURG, MICHIGAN

For more details circle NED-229 L1 on enclosed inquiry slip

on the PINES INVERTIBLE ROTARY BENDER

Fast Changeover — Accurate Bends

Eliminate workpiece interference on jobs with multiple planes, odd shapes in tubing, bar, pipe, angles, rolled or extruded parts. Pivoting top assembly and interchangeable tooling on the Model 1400 provides fast, 2-minute conversion from clockwise to counterclockwise bending.

Producing quality bends at speeds up to 400 an hour in materials to 1¼", with angle accuracy to ±½°, this highly versatile, low-priced, machine can cut your bending costs.

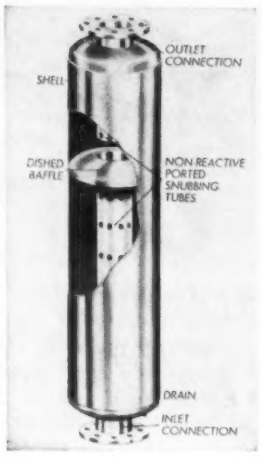
WRITE TODAY FOR CATALOG 356

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
640 WALNUT • AURORA, ILLINOIS

PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

For more details circle NED-230 L1 on enclosed inquiry slip

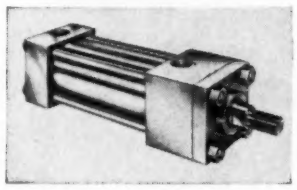
EXHAUST SNUBBERS
for turbo-charged engines



Gas passes in a straight line through ported tubes and snubbing chambers and comes out of this series of snubbers in a quiet, smooth flow. Designed for turbo-charged engines, they have a minimum pressure drop and no moving parts. Each model is for a particular level of noise suppression. Available are BMTA First-Turbo Line, BMTB Turbo-Standard, and BMTC Turbo-Pact. Series is available in 8 to 30-in. pipe sizes, with larger sizes built to specification. • **Burgess-Manning** Co., 9207 Sovereign Row, Dallas, Tex.

For more details circle NED-232 L1 on enclosed inquiry slip

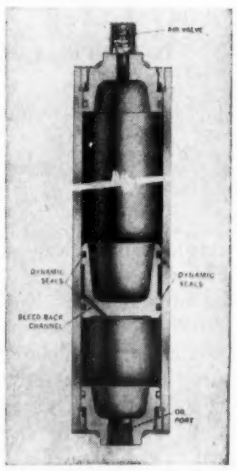
HYDRAULIC CYLINDER
2000-psi unit in 1½ to 14-in. bores



Series L 2000-psi square head hydraulic cylinder which meets all JIC standards is offered in bore sizes of 1½ to 14 in. It has V-type rod packing, micro-honed steel cylinder barrel, high tensile steel piston rod, extra long cartridge-type rod bearing, and rolled steel heads. Interchangeable needle and check valves are self-locking and flush set. • **Ortman-Miller Machine Co.,** 19 143rd St., Hammond, Ind.

For more details circle NED-233 L1 on enclosed inquiry slip

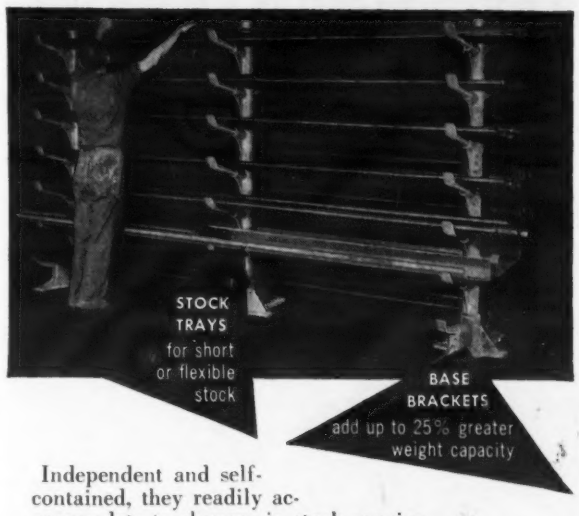
HIGH PRESSURE ACCUMULATOR
piston type has 20-gal capacity



Made for operation with commercial SAE hydraulic fluids, this 20-gal capacity, 3000-psi high pressure piston type accumulator is designed for operating temperatures of −40 to 200° F. It features a precision honed bore, dynamic seals, and a bleed-back piston channel. Ring construction retains the unit's oil end cap, making disassembly impossible without first discharging gas and oil pressure. A blow-out plug eliminates the danger of excessive pressure build-up. • **Greer Hydraulics, Inc.,** 5930 W. Jefferson Blvd., Los Angeles 16, Calif.

For more details circle NED-234 L1 on enclosed inquiry slip

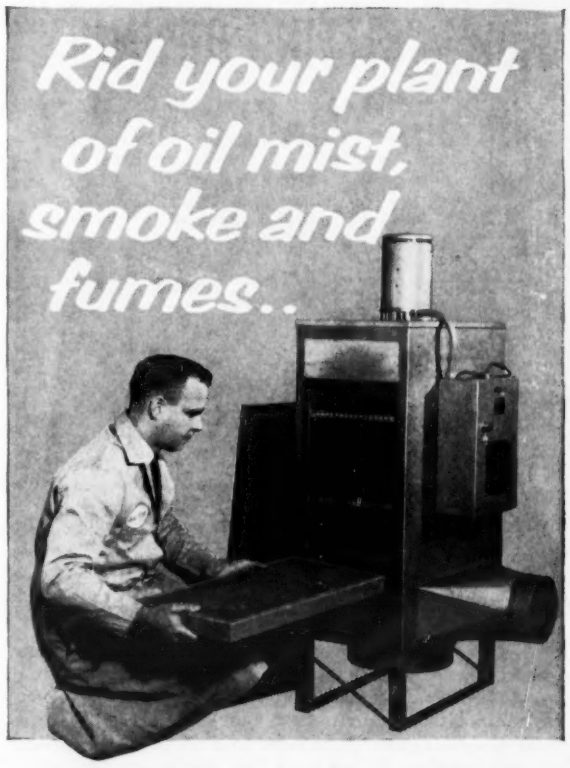
FLEXIBLE STORAGE



Independent and self-contained, they readily accommodate to changes in stock requirements. Easily relocated; no bolting. You get more into less space; you save time in storing and issuing with Brown Section Racks. Iron and steel construction. Can't burn, wrap, sag. Never wear out. Eliminate safety hazards. Act now! Write for complete specs and prices on models and sizes. Brown Engineering Co., 129 N. 3rd Street, Reading, Pa.

BROWN QUICK-SERVE RACKS

For more details circle NED-235 L1 on enclosed inquiry slip



with MISTI-MAZE
Electronic Precipitator

Here's the modern solution to localized plant air pollution problems! Compact Misti-Maze Precipitator can be installed near operation involved. Its new, improved design provides efficiency in a smaller unit. Air is cleaned and vented back into plant, eliminating loss of heated or cooled air. Coolants can be returned to machine for reuse. Easy to install . . . no special connections.

Install Misti-Maze For These Important Air Cleaning Benefits:

Lowers heating and cooling costs. Ideal for air conditioned plants. Avoids necessity for frequent cleaning of lighting fixtures.

Increased worker efficiency. Reduce absenteeism and improve output and quality of production through better operating conditions.

Reduces health hazards. Smoke particles, grease and irritants are removed from air.

For full details, write to Air-Maze Corporation, Cleveland 28, Ohio

AIR-MAZE DIVISION
CLEVELAND 28, OHIO
ROCKWELL-STANDARD CORPORATION

For more details circle NED-236 L1 on enclosed inquiry slip

Cambridge Flat Wire Belts

COOK, BAKE, COOL OR FREEZE FOODS FAST AT LESS COST

Whatever the foods—whatever the processing operation, Cambridge Flat Wire Belts can help you boost production, cut operation costs and maintain high quality standards. Here's how. ■ Large, open mesh allows air or liquids to flow through the belt and around the product for quick, thorough processing. ■ Smooth, flat belt surface carries bottles, cans, cartons, or jars without tripping or spilling, permits easy transfer of products on and off belt. ■ All-metal, anti-corrosive Cambridge Flat Wire Belts permit easy sanitation. ■ Belting can be steam cleaned while in motion to save time. ■ Rugged, quality construction assures longer belt service life, less maintenance, fewer repairs, a minimum of production downtime. ■ Belts may be driven positively with Cambridge sprockets or frictionally with flatfaced pulleys.

■ For full information of how Cambridge Flat Wire Belts can help you process more high quality foods at less cost to you, call your Cambridge Field Engineer. He's listed in the Yellow Pages under "Belting, Mechanical." Or, write direct for technical data.

The Cambridge Wire Cloth Co.
Department C • Cambridge 11, Md.

Manufacturers of Metal-Mesh Conveyor Belts, Flat Wire Conveyor Belts, Wire Cloth, Wire Cloth Fabrications, Gripper® Metal-Mesh Slings

For more details circle NED-231 L1 on enclosed inquiry slip

Control VIBRATION with VIBRA-MOUNT®

Send today for this VALUABLE NEW BROCHURE on economical VIBRA-MOUNT vibration isolation pads. Eliminate damage to machinery and floors. Available in standard and PERF-O-GRIP* design for maximum isolation (stops creep and crawl).
Your VIBRA-MOUNT distributor will help you select the proper VIBRA-MOUNT and give experienced advice on installation methods.

American Felt Company
704 Glenville Road Glenville, Conn.

For more details circle NED-237 L1 on enclosed inquiry slip

NOW! "SITTING DOWN ON THE JOB" MAKES MONEY FOR YOU

If your men still sweep with the costly pushbroom method, you're paying far *more* than the cost of owning and operating a Clarke Heavy Duty Power Sweeper. One man, sitting down on a Clarke, will clean from 60,000 to 100,000 sq. ft. of floor area per hour. Compare this with 2,000 sq. ft. per hour for pushbroom sweeping. You can cut labor costs as much as 90%, be money ahead in less than a year.

The new Clarke heavy duty power sweeper works anywhere. Outdoors in parking and storage areas, driveways, sidewalks. Indoors, open areas are a snap—aisles and congested areas pose no problem; this rugged, highly maneuverable workhorse sweeps right up to walls, posts, fixtures, crates, and equipment—picking up all types of dust, dirt and debris.

Clarke's high volume turbine draws dust-laden air from broom chamber and debris hopper through multiple exhaust ports and into non-clogging filter bag. No more clouds of dust to settle back on floors, cartons, and equipment. Hopper empties in a matter of seconds . . . the operator merely pushes a lever and hydraulic mechanism does the rest.

Your Clarke Distributor will gladly demonstrate a job-fitted Clarke Sweeper. Walking and rider types with sweeping swath from 27" to 36" available. Ask for his name.

7 cu. ft. of dirt and debris emptied in seconds

A TRUSTED NAME IN FLOOR MACHINES

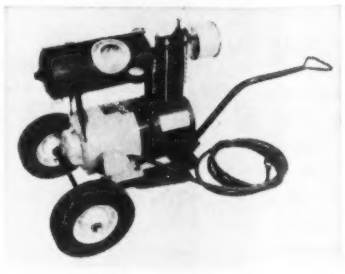
Clarke FLOOR MACHINE COMPANY
DIVISION OF STUDEBAKER-PACKARD CORPORATION

22115 Clay Ave.
Muskegon, Mich.

Authorized Sales Representatives and Service Branches in Principal Cities IN CANADA: Clarke Floor Machine Co., (Canada) Ltd., 21 Advance Rd., Toronto 18, Ontario. DISTRIBUTED BY: Rudel Machinery Company Limited, Montreal 3, Quebec

For more details circle NED-238 L1 on enclosed inquiry slip

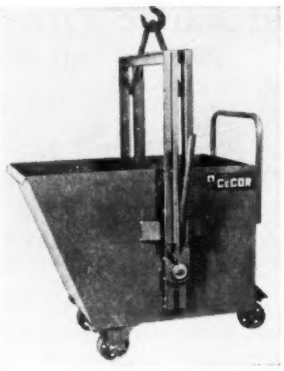
MOBILE COMPRESSOR
operates airless paint spray pumps



This 137-lb, ¾ hp Model 555-80 compressor for airless spray painting pumps operates on 110 v ac. Integral unloader is built in the cylinder head so that compressor runs only when actually needed. Unit measures 24 x 22 x 14 in. and has 10-in. rubber-tired wheels with ball bearings, spring foot, removable draw bar, storage and pulsation chamber with drain cock, 15 ft of heavy-duty cable, and large intake muffler and filter. • **Eclipse Air Brush Co.**, 390 Park Ave., Newark 2, N. J.

For more details circle NED-239 L1 on enclosed inquiry slip

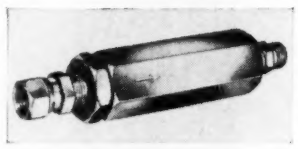
DUMP CART
receives screw machine chips



Measuring 25½ in. high, the CeCor Model 42D dump cart can be parked next to a single spindle screw machine to receive chips directly off the chip tray. Filled cart can be dumped from a hoist or fork lift. Trunnion pins on the cart and a separate dumping frame permit pouring of contents from any height into a drum, bin, or a chip wringer. It empties completely, rights easily, and latches automatically. Larger versions for multiple spindle machines are also offered. • **Coolant Equipment Corp.**, S. Main Street, Verona, Wis.

For more details circle NED-240 L1 on enclosed inquiry slip

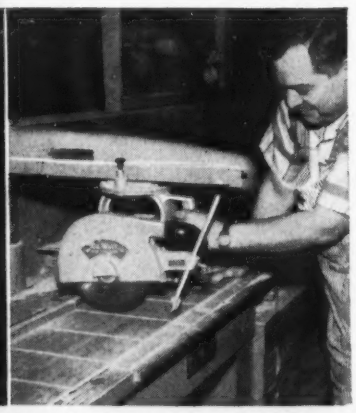
PAINT FILTER
for airless spray painting units



Anticlogging Model 41-1415 inline paint filter has a 3.14-sq in. filtering area that provides from 8 to 16 hr spraying time at capacities up to 32 oz per minute before cleaning is required. With only 5 per cent of the filtering area open, pressure drop across the unit is zero. Designed for use with airless spray painting equipment, the permanent filter is normally installed in the material hose adjacent to the airless pump unit. It may be attached to any of several types of spray guns by reversing the fittings. Filter element is easily removable for cleaning with any solvent. • **Binks Mfg. Co.**, 3140 Carroll Ave., Chicago 12, Ill.

For more details circle NED-241 L1 on enclosed inquiry slip

NEW DEWALT IDEAS BUILD NEW PROFITS!



Does the work of many machines!

DEWALT reduces your investment 60% or more. It does the work... saves the cost and space... of *many* power tools. Use coupon for free copy of new DeWalt IDEA BOOK.

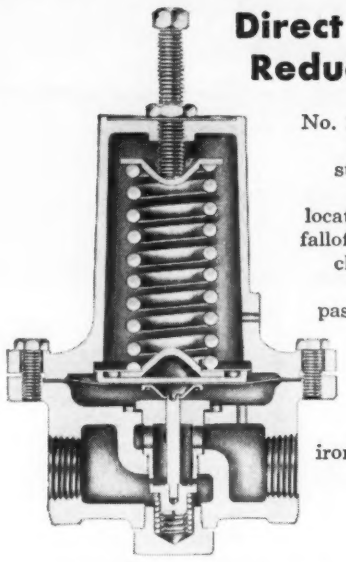
DEWALT, Inc., Dept. NE-1161, Lancaster, Pa.
Please send free DeWalt IDEA BOOK.
Name
Address
City State

Custom-built by DEWALT, Inc., A Black & Decker SUBSIDIARY

For more details circle NED-242 L1 on enclosed inquiry slip

For Accurate Control of Steam Pressures

Direct Operated Reducing Valve



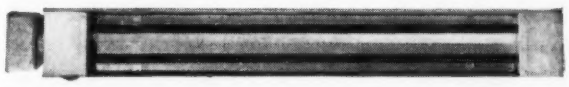
No. 17-1 Direct Operated Reducing Valve, for steam service, features accurately sized and located ports to minimize falloff; isolated diaphragm chamber for maximum stability; large body passages; lapped seating surfaces for tight shutoff. (No. 17-22 with soft seats for air service, also available.) Made of iron in sizes ½", ¾", 1". Reduced pressure ranges 2-12; 8-50; 25-150 psi.

Ask Your Mason-Neilan Industrial Distributor.
He is ready to serve you and to ship promptly from stock. Ask for catalog or write direct.

MASON-NEILAN
Division of Worthington Corporation
MN1-18 69 NAHATAN ST., NORWOOD, MASS.

For more details circle NED-243 L1 on enclosed inquiry slip

HEAT and DRY 10 to 20 times faster with far-infrared VYCOR® heaters



One user of VYCOR heaters cut curing time for cosmetic case coatings from 30 minutes in a hot-air oven to 3 minutes. A brass manufacturer found that VYCOR heaters reduced drying time for curing acrylic paint on copper sheets from 20 minutes to 1 minute. A plastic rack firm cured products in a hot-air convection oven for 30 to 40 minutes—until they found that VYCOR heaters could do the same job in 3 minutes!

VYCOR *heaters can operate continuously for months* without maintenance. They are color blind—heat and dry all surfaces at the same rate. They heat up instantly, create only a 10% current surge, and deliver 23 watts of energy per square inch of work surface.

NEW BULLETIN explains in detail how VYCOR heaters work, contains specifications and applications. Write to Plant Equipment Sales Department, 5611 Crystal Street, Corning, N. Y.

CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

For more details circle NED-244 L1 on enclosed inquiry slip

boost bench production with AIRETOOL'S 400 SERIES STRAIGHT TYPE IMPACT WRENCHES

. . . here's why:
- full ¼" bolt capacity
- compact, lightweight, easy-to-handle, minimum torque reaction
- unitized construction . . . rugged, heat-treated aluminum alloy castings
- air powered . . . completely reversible, high run-down speed, low air consumption
- operation doesn't depend on springs or centrifugal force
- 3 models . . . available in straight or pistol grip type

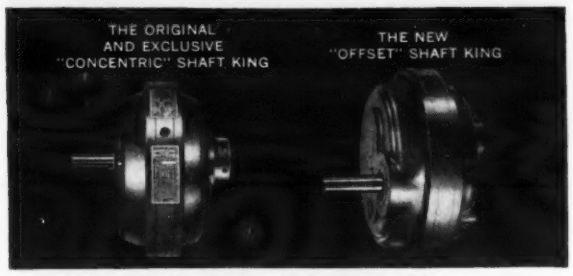
And when you need ½" bolt capacity, investigate Airetool's 600 Series Pistol Type Impact Wrenches. Call your Airetool representative for a demonstration. Or, if you like, write us direct.

Representatives in principal cities of the free world

AIRETOOL MANUFACTURING COMPANY SPRINGFIELD, OHIO

More than 30 years' experience in pneumatic motor equipment

For more details circle NED-245 L1 on enclosed inquiry slip



First and Still the Finest SHAFT-KING Speed Reduction Drives by

In the popular SHAFT-KING SPEED REDUCTION DRIVES, American Pulley offers you the world's most complete line of shaft-mounted reducers. Whatever your application, you'll find a SHAFT-KING DRIVE to suit it perfectly: from F HP to 60 HP . . . in 5:1, 13:1 and 20:1 ratios . . . and for any drive speed from 5 to 350 RPM.

SHAFT-KING SPEED REDUCTION DRIVES are *performance-proved*, too. Since 1941, when American *pioneered* the shaft-mounted reducer, over 150,000 SHAFT-KING DRIVES have been installed.

Wherever you are, you'll find an American Pulley distributor nearby with a *complete* line of SHAFT-KINGS—and *every* model in the line available for immediate delivery from stock. See him soon—and get the whole "no wait—no waste — no worry" story on the *original* shaft-mounted reducer: *The SHAFT-KING by American Pulley.* 2696

THE AMERICAN PULLEY COMPANY
4200 WISSAHICKON AVENUE • PHILADELPHIA 29, PA.
A division of VAN NORMAN INDUSTRIES INC.

For more details circle NED-246 L1 on enclosed inquiry slip

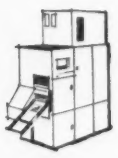
XEROGRAPHY

for engineering-drawing reproduction

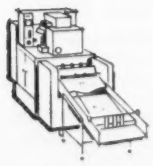
. . . takes the "wait" out of print duplicating. . . annual savings from $5,000 to $200,000!

Xerographic copying equipment is saving hundreds of major industrial firms all over the country up to $200,000 annually! This clean, fast, dry, electrostatic copying process eliminates costly waiting of highly paid personnel—gives you high quality prints on ordinary paper, in minutes! There's no capital investment; equipment is available at modest monthly rentals.

For high-quality offset paper masters: Model 1218 copying equipment prepares sharp, inexpensive paper masters from original drawings of A to D size. Larger drawings are perfectly reduced to 12" x 18" masters, from which multiple prints are run off in seconds!



Volume reproduction from original drawings or roll microfilm: Sharp, dry, ready-to-use prints, on ordinary paper, vellum, or offset paper masters up to 11" wide, are made at the rate of 20' a minute. Copyflo® Continuous Printers enlarge, reduce or copy size-for-size from original drawings or roll microfilm (16 or 35mm).



Copyflo 24C

Reproduction from card-mounted microfilm: The Copyflo 24C and the exciting new 1824 Printer automatically produce dry, positive prints on ordinary paper, vellum, or offset paper masters from 35mm card-mounted microfilm! The Copyflo 24C produces ready-to-use prints, up to 24" x 36", at the rate of 20 linear feet a minute. The new, low cost 1824 Printer, for small volume or large, decentralized users, produces prints from 8½" x 11" to 18" x 24"!

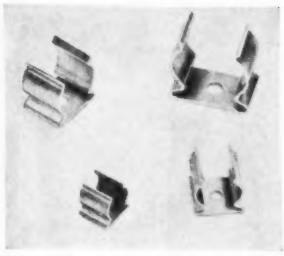
1824 Printer

Get all the Facts! Write XEROX CORPORATION (formerly Haloid Xerox Inc.), 61-213X Haloid Street, Rochester 3, New York. Branch offices in principal U.S. and Canadian cities.

XEROX CORPORATION

For more details circle NED-247 L1 on enclosed inquiry slip

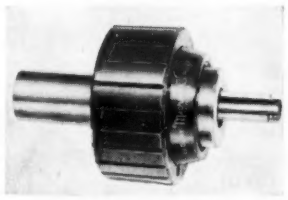
SPRING TENSION CLIPS
retain capacitors, resistors



Carbon steel and beryllium copper alloy are used in NAS Type 1464 spring tension clips which retain capacitors, resistors, and other electronic components with diameters from 0.1 to 1.12 in. Thirty-nine types are offered. Carbon steel clips have 175,000 to 215,000 psi tensile; whereas beryllium copper units have 123,000 to 170,000 psi tensile strength. Alternate finishes are cadmium, silver, nickel, or tin plate. • **Birtcher Corp.**, Industrial Div., 745 S. Monterey Pass Rd., Monterey Park, Calif.

For more details circle NED-248 L1 on enclosed inquiry slip

INSIDE CHUCK
covers 3/8 to 3½-in. ID range



Micro-Grip I.D. chuck is attached to a lathe, grinder, miller, or other machine tool by means of a collet, chuck, or face plate. It can also be used as a mandrel and held between centers. Five sizes cover inside diameters from 3/8 to 3½ in. using interchangeable jaws. Three expanding jaws hold the work to 0.0002-in. repeat accuracy. Six-jaw construction is optional. Models can be provided with threaded, extra long, or multiple diameter (step) jaws. Optional shoulder stop can be machined to position work at an exact location on the chuck arbor. • **LeCount Tool Works, Inc.**, Box 252, Cheshire, Conn.

For more details circle NED-249 L1 on enclosed inquiry slip

EYE & FACE WASH FIXTURE
installed where hazards exist

On-the-job first aid for eyes irritated with acid, caustics, fumes, or dust is provided by this eye and face wash fixture. It delivers water at about 10 gpm at 15 to 18 psi by depressing a large, easy-to-locate handle. Twin water outlets flood the user's face with an 8 x 9-in. curtain of aerated water. Fixture may be installed at points where hazards exist in chemical plants, plating shops, foundries, and laboratories. It requires a minimum of 15 psi flow and is offered in wall and pedestal mounted and built-in table models. Hose and aerated eye wash outlet for use on victims in a prone position is optional. • **Speakman Co.**, 30th & Spruce, Wilmington, Del.

For more details circle NED-250 L1 on enclosed inquiry slip

CLEVELAND ELECTRIC BIN VIBRATOR

SILENT, ADJUSTABLE VIBRATION . . .

Quiet as an electric motor, this electric vibrator delivers adjustable impact that moves materials from stubborn bins, hoppers and chutes. A pair of eccentric weights mounted on both ends of the motor shaft are easily opened or closed for changing vibratory force. Just remove the protective end bell and a bolt. Self-contained with no pulleys, Cleveland electric vibrators deliver low-maintenance, trouble-free service.

The RC electric vibrator line offers a wide choice of vibration impacts ranging up to well over a ton for heavy applications. Models are available in single or three-phase, A.C. current for operation on 110, 220, 440, or 550 volts.

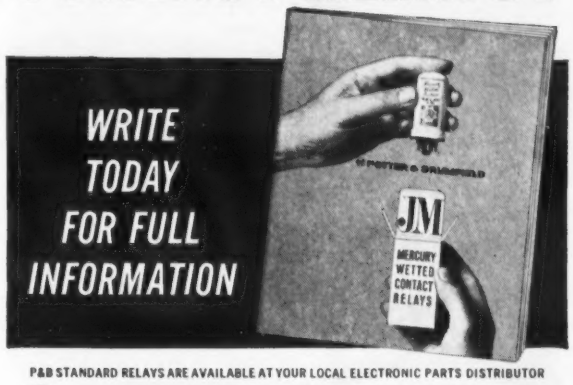
Count on Cleveland for proven quality air and electric vibrators, vibrating feeders and tables.

For complete details, write for Catalog #11
3335-CV

THE CLEVELAND VIBRATOR CO.
2744-11 Clinton Ave. • Cleveland 13, Ohio

For more details circle NED-251 L1 on enclosed inquiry slip

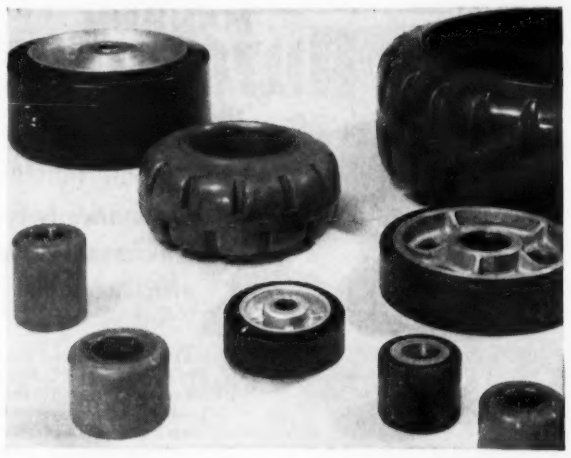
When should you use MERCURY-WETTED CONTACT RELAYS?



P&B STANDARD RELAYS ARE AVAILABLE AT YOUR LOCAL ELECTRONIC PARTS DISTRIBUTOR

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY • PRINCETON, INDIANA
IN CANADA: POTTER & BRUMFIELD, DIVISION OF AMF CANADA LIMITED, GUELPH, ONT.

For more details circle NED-252 L1 on enclosed inquiry slip



NEW

URETHANE WHEELS OF DU PONT ADIPRENE® OUTLAST RUBBER 5 TO 1

Here's an entirely new kind of resilient material for industrial wheels . . . ADIPRENE, a urethane elastomer made possible by Du Pont research.

Solid tires, caster and pallet wheels made from this new Du Pont elastomer carry far heavier loads than conventional rubber wheels, yet are resilient, non-marking. They resist oils, mild acids and alkalies, temperature extremes, weathering and aging.

And most important, ADIPRENE wheels outlast conventional rubber wheels by many times. Their resistance to abrasion, cutting, chipping and abuse is outstanding. In one plant, they outlasted rubber eight times. In another, where rubber wheels usually lasted only a few days, they were still in good condition after *six months.* Four- and five-fold increases in service life are common.

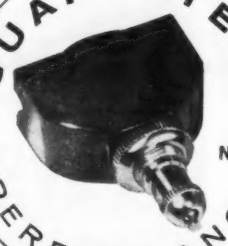
Send the coupon today for complete information.

E. I. du Pont de Nemours & Co. (Inc.)
Elastomer Chemicals Department NED-11
Wilmington 98, Delaware
☐ I would like to know more about ADIPRENE industrial wheels. Please send literature and list of manufacturers.
☐ I am particularly interested in the following types of wheels
_____
☐ Other information _____
Name _____
Firm _____
Address _____
City _____ State _____

DU PONT ADIPRENE® URETHANE RUBBER
Better Things for Better Living . . . *through Chemistry*

For more details circle NED-253 L1 on enclosed inquiry slip

GUARANTEED PERFORMANCE



No. 41

No. 71 Is only 11/16" thick, 6 amp. "T" 125 V. 3 amp. 250 V.

LONG LIFE switches by McGILL

The only switch unconditionally guaranteed in lighting circuits. One piece phenolic case makes wiring easier, insures insulation. 6 amp. "T" 125 V.—3 amp. 250 V. Use 6 to 20 amp. LEVOLIER switches for canopy, fixture and FHP motor use. Also toggle, push button.

Available from your electrical wholesaler

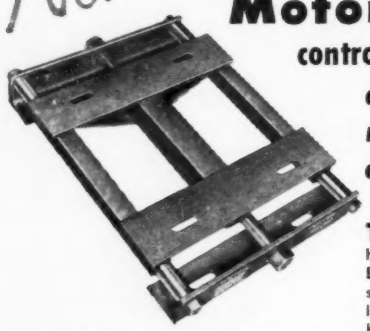
Send for McGill Electrical Specialties Catalog No. 84.

engineered electrical products McGILL® precision needle roller bearings

McGILL MFG. CO. INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

▲ For more details circle NED-254 L1 on enclosed inquiry slip ▲

New... MANHEIM AUTOMATIC Motor Base controls belt tension *automatically for maximum drive efficiency!*



The new, patented Manheim AUTOMATIC Motor Base permits the transmission of more power with less stress on belts and bearings than any other device on the market. An adjustable spring, acting upon a freely movable carriage, automatically provides the proper belt tension under all operating conditions—even under heavy starting loads. The Manheim AUTOMATIC Motor Base

- *eliminates* belt slippage and the need for excessive belt tension which damages belts, pulleys and bearings
- *eliminates* machine shutdown, cuts maintenance costs
- *provides* continuous maximum machine output
- *ensures* minimum wear on belts, pulleys and bearings—initial pulley alignment is always maintained

Readjustment, when necessary due to excessive belt stretch, is made while operating under load.

Send for illustrated bulletin.

Available in three Series; stock sizes range from ¼ through 125 HP for NEMA frames 56 through 505 and 445-U. Special bases can be designed and built for motors up to 500 HP as well as for motors having one or two outboard bearings.

Manheim Manufacturing & Belting Co. • Manheim 4, Pa.

▲ For more details circle NED-255 L1 on enclosed inquiry slip ▲

SLASH washing costs with John BEAN AQUABLAST

HIGH PRESSURE WASHERS

One man with AQUABLAST equals a crew of men using ordinary water pressures. The important difference is that water, discharged at 600 lbs. pressure from an Aquablast gun, cuts through caked dirt, hardened deposits, gummy residues or accumulated grime like magic! John Bean Aquablast Washers are complete, motor driven pumping units for use with 1 to 3 guns.

IS YOUR CLEANING PROBLEM ONE OF THESE...OR SIMILAR?

- Processing tanks
- Metal rust or scale
- Heat exchanger tubes
- Boxcar interiors
- Cement trucks
- Animal carcasses
- Food plant floors
- Chemical residues

Send information request form — today!

John BEAN DIVISION OF FOOD MACHINERY & CHEMICAL CORP. INDUSTRIAL SALES DEPARTMENT LANSING MICHIGAN • SAN JOSE, CALIFORNIA

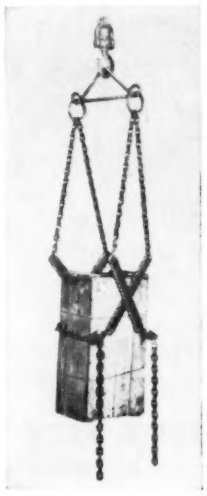
▲ For more details circle NED-256 L1 on enclosed inquiry slip ▲

CRIMPING TOOL for pin and socket contacts

Removable pins and sockets used in electrical connectors are crimped by this No. 10692 four - indenter pres - SURE - tool. It crimps MS-3190 Nos. 20A, 20, 16, and 12 contacts; and MS-24254 and MS-24255 Nos. 20, 16, and 12 contacts to Class I requirements of MIL-T-22520. Three color-coded positioners, one for each contact size, locate contacts with respect to tool's indenters. They automatically control depth of crimp and point of cycle release. Data plate with same color code shows range of wire sizes. Space in handle stores two alternate size positioners. Tool weighs 1¼ lb. • **Buchanan Electrical Products Corp.**, Route 22, Hillside, N. J.

▲ For more details circle NED-257 L1 on enclosed inquiry slip ▲

BARREL & BOX GRAB 1000 and 2000-lb load capacities



Any wood or steel barrel, box or container ranging from the small nail keg to a 40-in. diameter size can be picked up by 2000-lb capacity Model NS-288 barrel and box grab. Smaller size NS-288-L with 1000-lb capacity handles up to 25-in. diameter containers. Designed on the toggle principle, grabs have heavy welded steel chains and tongs made of heavy bar stock. • **Palmer-Shile Co.**, 16000 Fullerton Ave., Detroit 27, Mich.

▲ For more details circle NED-258 L1 on enclosed inquiry slip ▲

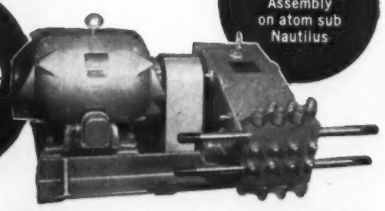
SAFETY SPECTACLES frames are wire reinforced

Light weight plastic frames of these improved safety spectacles are reinforced with wire to insure lens retention under severe working conditions. Lenses are easily replaced by removing one Nylok screw. Available with or without wire mesh side shields, spectacles come in several lens sizes and nose bridge widths with either clear or tinted, prescription or nonprescription lenses. Model ACM-23-A shown folds compactly into a plastic pocket-clip case. • **Kimball Safety Products Co.**, 9610 Wade Park Ave., Cleveland 6, Ohio.

▲ For more details circle NED-259 L1 on enclosed inquiry slip ▲

for PRESSURES to 12,000 lbs. TEMPERATURES to 500° F.

John BEAN high pressure pumps



John BEAN Triplex Pump Assembly on atom sub Nautilus

Rugged, compact John Bean Triplex Pumps are the answer for high pressure pumping applications, among them coolant pumping in atomic reactors. Pressures range from 1000 to 12,000 psi, fluid temperatures to 500° F. Important design features include:

- Lifetime Sapphite plungers
- "Roto-splash" drive end lubrication
- Distortion-free cast iron housings.
- Free-acting ball-type and spring loaded poppett valves, replaceable valve seats

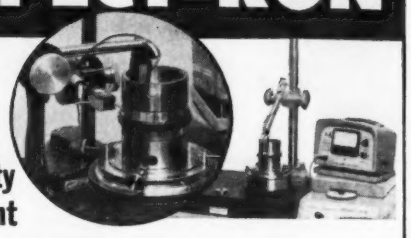
also: John Bean vertical duplex pumps — pressures to 1000 psi, temperatures to 200° F.

John BEAN DIVISION OF FOOD MACHINERY & CHEMICAL CORP. INDUSTRIAL SALES DEPARTMENT LANSING MICHIGAN • SAN JOSE, CALIFORNIA

▲ For more details circle NED-260 L1 on enclosed inquiry slip ▲

The Cleveland INSPECT-RON

For Roundness and Concentricity Measurement



The new Cleveland INSPECT-RON is especially adapted to inspection for roundness, concentricity and squareness measurement in the shop.

Measurement is made to a precise spindle mounted in the surface plate on top of the desk size console. Spindle accuracy is guaranteed radially and axially to .000005". The built-in polar coordinate recorder enables the operator to analyze the part measurements on a permanent visual chart.

Electronic gaging is provided by the use of the accepted Cleveland Indi-Ac which can easily be used for other gaging operations.

Cleveland Precision Instruments Include:

INDI-AC—Ultra-Precision Electronic Height Gage • MICRO-AC—Electronic Micro-Comparator

PAR-AC—Electronic Production Gage • INDI-RON—Ultra-Precision Roundness, Squareness and Concentricity Gage

INDI-AC Jr.—General purpose precision gage. Battery and AC operated.

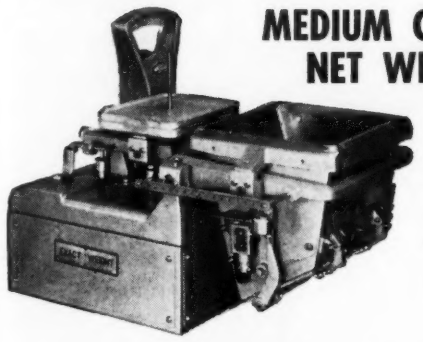
Cleveland INSTRUMENT COMPANY A SUBSIDIARY OF THE BENDIX CORPORATION

6220 East Schaaf Road • Cleveland 31, Ohio

▲ For more details circle NED-261 L1 on enclosed inquiry slip ▲

NEW EXACT WEIGHT®

MEDIUM CAPACITY NET WEIGHER



Model 630 Capacity 75 lbs.

This new medium capacity automatic net weigher, with traditional Exact Weight dependability, handles any dry, free-flowing material. Net weigher, only, consists of a heavy-duty, fast-responding scale, weigh hopper and air-operated dump mechanism. Automatic cut-off controls regulate the feeding equipment. Design provides for addition of enclosures and dust removal systems. Model 630 can be used singly, or in multiples of two or more units where greater production speeds are required.

Write for complete details.

THE EXACT WEIGHT SCALE CO.
930 W. FIFTH AVE., COLUMBUS 8, OHIO
In Canada: 5 Six Points Road, Toronto 18, Ont.

BETTER QUALITY CONTROL...BETTER COST CONTROL

▲ For more details circle NED-262 L1 on enclosed inquiry slip ▲

50% MORE G.P.M. AT NO EXTRA COST

NEW JOHN BEAN TRIPLEX PUMP

Now, with a re-designed fluid end, John Bean's new 7000 Series triplex pumps offer a 50 per cent increase in g.p.m. displacement at no extra cost with no increase in size or weight. In addition to greater capacity, the compact pumps feature easier-than-ever maintenance with "slip in" cylinder and valve covers, and valve seats. The fluid end may be specified in one of several materials to handle most any liquid, including cast or forged steel and 304 or 316 stainless steel.

- rated capacity from 1 to 90 g.p.m. at pressures from 100 to 10,000 p.s.i.
- spring loaded poppet valves
- fluid temperatures to 500° F.
- Outside packed, lifetime Sapphite plungers

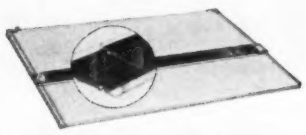
WRITE TODAY FOR FREE CATALOG L-1484

John BEAN DIVISION OF FOOD MACHINERY AND CHEMICAL CORPORATION INDUSTRIAL SALES DEPARTMENT LANSING, MICHIGAN • ORLANDO, FLORIDA • SAN JOSE, CALIFORNIA

▲ For more details circle NED-263 L1 on enclosed inquiry slip ▲

MAYLINE

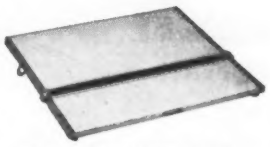
Choose Your Christmas Gifts Now!



PARALLEL RULING STRAIGHTEDGE

The Mayline products shown are ideal Christmas gifts. These and other products are ready for prompt shipment, directly to you.

See your local dealer today and reserve the product you want. Early orders insure delivery for Christmas.



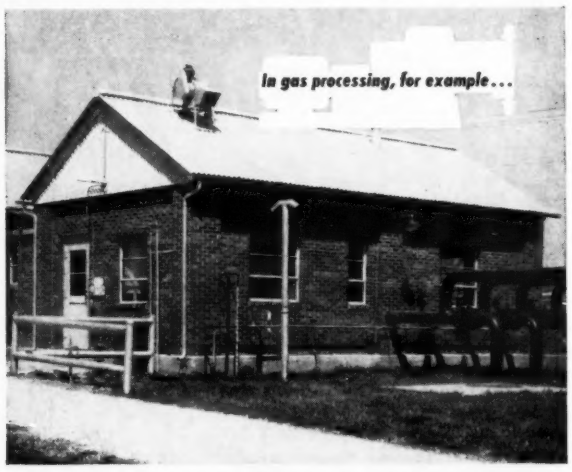
PROFESSIONAL DRAWING KIT

MASTER TABLE

MAYLINE CO., INC.
617 No. Commerce St.
Sheboygan, Wisconsin

MAYLINE

For more details circle NED-264 L1 on enclosed inquiry slip



Pulsafeeder meters "skunk essence" with never a whiff of leakage

Metropolitan Utilities District of Omaha adds skunk-like odorants to natural gas to warn customers of leaks. At first there were problems: odorization varied with gas flow rates; odorizing equipment often broke down under high loads; neighbors complained about leakage of the odorant.

Then, four years ago, Lapp Auto-Pneumatic Pulsafeeders took over the job. Since then, pump leaks have been non-existent. Adjustments that used to take hours are made in seconds. Maintenance costs 95% less. Odorization is absolutely uniform. And based on present conditions, Metropolitan Utilities estimates their Pulsafeeder Pump life to be over 20 years.

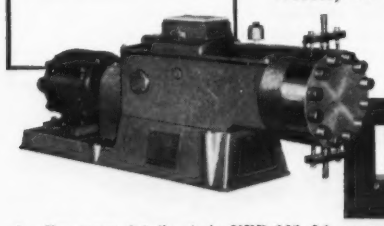
If your material is hard to handle . . . if you're looking for accurate metering . . . if high maintenance costs are eating into profit . . . it's time to put Pulsafeeder to work for you.

WRITE for Catalog 59. Lapp Insulator Co., Inc. Process Equipment Division, 1823 Poplar St., LeRoy, New York.

New, Informative Film "HARD TO HANDLE"

Tells the story of safe, accurate, metered-pumping. Now, know all the facts from origin — to development — to application of Pulsafeeder Metering Pumps.

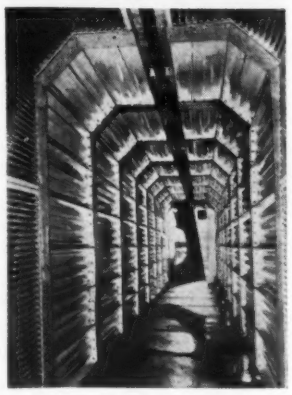
30 enjoyable minutes in sound and full color. Write for further details and arrangements for showing at your plant or outside location of your choice.



Lapp

For more details circle NED-265 L1 on enclosed inquiry slip

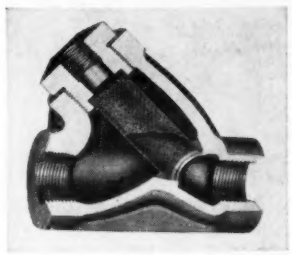
INFRARED HEATING PANELS for assembly into processing ovens



Line of electric quartz infrared heating panels with one, two, and four elements are made in 2, 4, and 6-ft lengths for assembly into ovens for heating, drying, curing, and baking applications. The quartz elements are offered in 22, 46, and 70-in. over-all lengths with ratings of 500 to 1500 w for 115-v operation and 500 to 3500 w for 230-v operation. At normal line voltage, elements operate at about 1600° F with peak emission at 3 to 3.5 microns. Heater panels are supplied for both front and back wire connections. Infrared ovens are easily installed and moved, and afford close heat control for product temperatures to 800° F. **Hupp Corp.**, Fannon Products Div., 3000 E. Woodbridge, Detroit 7, Mich.

For more details circle NED-266 L1 on enclosed inquiry slip

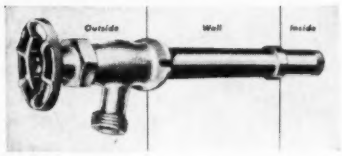
DUCTILE IRON LINE STRAINERS for steam, water, air, oil, gas use



Ductile iron line strainers for steam, water, air, oil, gas, or chemical service are suitable for 600 psi at 650° F, or 1000 psi at 100° F. Made in ¼ to 3-in. sizes, the Series 801J line strainer features a machined body recess and screen cap so that screen fits snugly without binding. Steam or liquid cannot by-pass the screen which is easily removable. A 30-mesh Monel screen is standard, although other metals and mesh sizes are available. • **OPW-Jordan Corp.**, 6013 Wiehe Rd., Cincinnati 13, Ohio.

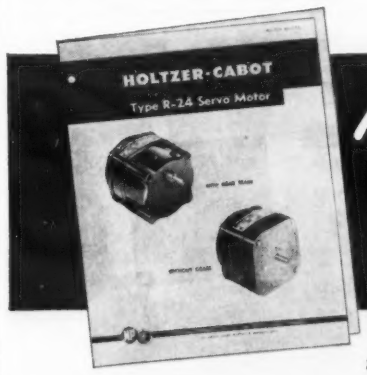
For more details circle NED-267 L1 on enclosed inquiry slip

FROSTPROOF OUTSIDE FAUCET shuts off water inside building



Extension tube and valve seat of this Frost-Proof outside faucet enable it to shut off water inside the building where it is warm. No water reaches the freezing zone. It is installed and functions as any other outside water shutoff and eliminates need for inside shutoff valves. Faucet is available in 4 to 18-in. lengths in 2-in. increments. **Mansfield Sanitary, Inc.**, Perrysville, Ohio.

For more details circle NED-268 L1 on enclosed inquiry slip



NEW!

DETAILED DATA ON SERVO MOTORS

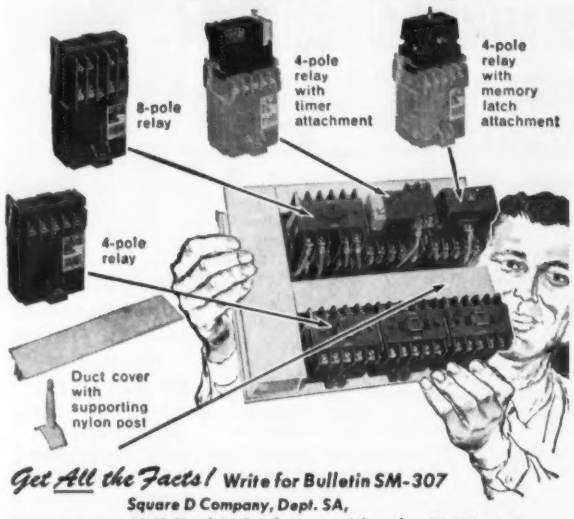
Send for Bulletin MO-3.7A

Here's information you can use to increase speed and accuracy in high precision control and measuring equipment . . . 4 fact-filled pages on Holtzer-Cabot's line of R-24 Servo Motors. Contains 3 sets of speed-torque, performance curves and other pertinent data such as starting voltage, stall torque, rotor inertia, acceleration at stall, etc. Covers R-24 motors available with stacking lengths of 0.5", 0.7", 1.0" and 1.4". Models with or without gear trains. Write: Holtzer-Cabot Motor Division, 125 Amory Street, Boston 19, Massachusetts.

HOLTZER NP CABOT
MOTOR DIVISION
National Pneumatic Co., Inc., Boston 19, Mass.

For more details circle NED-269 L1 on enclosed inquiry slip

NEW Square D 300-volt Control System for Outstanding Versatility, Drastically Reduced Panel Space!



Get All the Facts! Write for Bulletin SM-307
Square D Company, Dept. SA,
4041 North Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-270 L1 on enclosed inquiry slip

NEW! • LOW COST EC&M MAGNETIC CONTROL FOR DC CRANES

"PT" Controller with front cover removed

Better than Manual Control for So Many Reasons—

Now, on any DC application up to 55 HP, 230 volts, new "PT" crane control gives you the advantages of full magnetic control where manual control formerly was specified purely on the basis of price.

Write for Bulletin 6131.
Square D Company, EC&M Division
4500 Lee Road, Cleveland 28, Ohio

SQUARE D COMPANY
EC&M DIVISION • CLEVELAND 28, OHIO
wherever electricity is distributed and controlled 2725

For more details circle NED-271 L1 on enclosed inquiry slip

NOW! THE BEST VOLTAGE TESTER OF THEM ALL IS EVEN BETTER

- Magnetic Polarity Cap—No glass bulbs to break or explode.
- Insulated Nameplate—highly visible, colored voltage bands.
- Spring-loaded point shields prevent accidental flashes. Can be latched in visible point position. Prods can be fused if desired.
- Molded grips fit into protective slots.
- Shock Eliminated—No joints or cracks in one piece molded case. Solenoid protected from dust and dirt.

Write for descriptive bulletin. Address Square D Company, Mercer Road, Lexington, Kentucky

SQUARE D COMPANY
wherever electricity is distributed and controlled

For more details circle NED-272 L1 on enclosed inquiry slip

NEW, IMPROVED KANT-SLAM HYDRAULIC DOOR CHECK

STOPS SLAMMING DOORS!

CLOSES Large or Small Doors, Screen Doors and Gates–Easily, Gently, Smoothly

STOPS Slamming...Banging...Broken Door Glass...Insects...Drafts...Heat Loss

$11.95

KANT-SLAM closes doors with efficiency of human hand. Hydraulic action—NOT an air check—piston works in oil. **New! Improved packing for smoother-than-ever, more efficient operation!** 3 years' trouble-free service guaranteed. Price about half of other hydraulic controls.

Works any place along hinge side of door—top, middle or bottom—either right or left hand doors. KANT-SLAM is completely self-contained—door and hinges are absolutely free of any strain or pressure. Holds door open when past 90 degrees.

Only one size Check required—three sizes easily detachable springs available for various size doors. Simple screw adjustment for closing speed.

ATTRACTIVE DARK BRONZE METALLIC LACQUER FINISH HAMMERED BRONZE EFFECT

Used by Hundreds of Nationally-Known Firms

Oak Ridge Atomic Energy Plant, University of North Carolina, Great A. & P. Tea Co., United States Steel Co., General Electric Co., Rutgers University, Northrop Aircraft, Fuller Brush Co., Carnation Co., Shell Oil Co., Kraft Foods.

Order on 30 Days' FREE TRIAL at $11.95 f.o.b. Bloomfield, Indiana, or write for complete details.

KANT-SLAM DOOR CHECK CO.
571 West Spring St., Bloomfield, Ind.

For more details circle NED-273 L1 on enclosed inquiry slip

New ARMSTRONG "90" SERIES RATCHET

The ONLY Ratchet with ALL these important features!

All wearable parts are replaceable; individually, inexpensively, easily. With no teeth cut into handle, it need never be replaced. *"ARMSTRONG" on these ratchets guarantees: advanced design, top quality and tool sense.

Extra heavy duty "50" Series ARMSTRONG ratchets (see right) in 1", 3/4", 1/2" and 3/8" square drive sizes. Our General Catalog 700, gives complete information on these and approximately 5500 other ARMSTRONG tools. Your local ARMSTRONG Distributors will supply you a Catalog and demonstrate the new ratchets. If you don't know who he is, write us for his name.

ARMSTRONG BROS. TOOL CO.
5245 W. ARMSTRONG AVE. • CHICAGO 46, ILLINOIS

For more details circle NED-274 L1 on enclosed inquiry slip

MOTORS

fractional hp

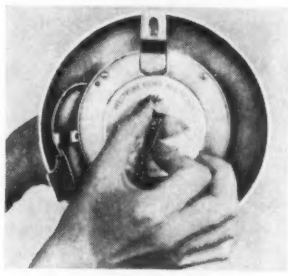
Operates 25,000 hours without re-oiling on light duty applications, uses specially designed sleeve bearing lubrication system. Over 550 motor styles rated 1/8 to 1 hp in variety of combinations of mechanical features are stocked by Westinghouse at all times to meet your instant needs. Write for Bulletins 2820 and 2850 to Westinghouse Electric Corp., Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96173

Westinghouse

For more details circle NED-275 L1 on enclosed inquiry slip

FIRE DETECTOR & ALARM
self-contained automatic unit

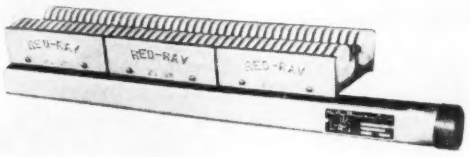


Fire gong of the Westromatic self-contained fire detector and alarm rings a loud warning before fire actually reaches it. Heat alone will set off the 7-in. bell which rings for at least 2½ min and can be heard for considerable distances. Bell is maintenance-free and, after winding, rings when heat reaches 150° F. Higher or lower temperatures can be factory set. The nonelectrical alarm protects a 14 x 14-ft area or 14 ft of corridor. • **Westron Corp.**, 652 Hudson St., New York 14, N. Y.

For more details circle NED-276 L1 on enclosed inquiry slip

INFRARED GAS BURNER
in 2½, 4½, and 7-in. lengths

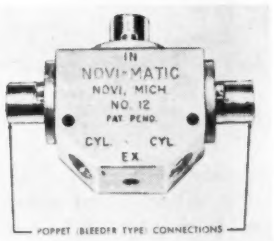
High conversion ratio of fuel to infrared is featured by Type K infrared gas burner, applicable in drying and curing processes, metal heat treating, drying and



baking ovens, ink drying, and paper and food processing. Burner produces most of its radiation in the far-infrared wavelengths above 2.7 microns. It is made in 2½, 4½, and 7-in. lengths which can be mounted end-to-end on a common manifold, providing continuous radiators of 100 ft or more. Its width is 6⅝ in. Adjustment of fuel input for each section permits profiling of heat output across the full burner length. Throttling capabilities are better than 10 to 1. • **Red-Ray Mfg. Co.**, 318 Cliff Lane, Cliffside Park, N. J.

For more details circle NED-277 L1 on enclosed inquiry slip

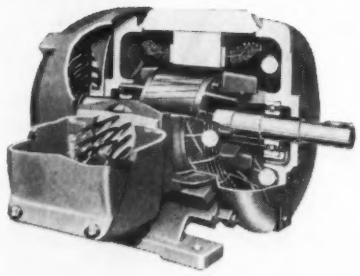
AIR CONTROL VALVE
bleeder poppet operated type



Machined from solid aluminum, this 1/8-in. air control valve has Teflon slides which require no lubrication. It is bleeder poppet operated and is suited for use with double-acting cylinders having diameters up to 2 in. • **Novi Tool & Machine Co.**, Novi-Matic Valve Div., 25806 Novi Rd., Novi, Mich.

For more details circle NED-278 L1 on enclosed inquiry slip

NEW



Guardistor motors

Eliminate production shut-downs from motor burnouts! Static thermistors in windings sense critical temperatures—take motor off line, flash warning signal. No nuisance tripping—no parts to wear out or fail. Available on all new Westinghouse motors; all types of rewound motors. Write for Bulletin B-7876-R. Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96180

Westinghouse

For more details circle NED-279 L1 on enclosed inquiry slip

compare size
compare capacity
compare price

. . . of any dockboard with LANGSENKAMP'S ORIGINAL

Super Strength Aluminum DOCK PLATE

12,000 lbs. capacity...

Light... one-man lifts it easily!

24" X 48" SIZE

STILL AS LOW AS $49.00

- 9 styles — over 65 stock sizes.
- Special alloys give extra strength and durability to meet today's increased freight handling requirements.
- Exclusive — optional, abrasive safety surface gives permanent non-skid protection even if wet!

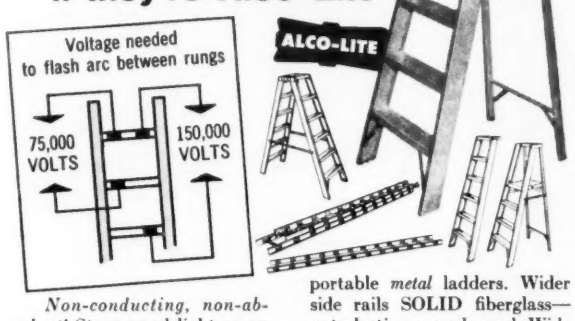
Write today for complete catalog and prices.

F. H. LANGSENKAMP CO.
227 E. SOUTH ST. • INDIANAPOLIS 4, INDIANA

For more details circle NED-280 L1 on enclosed inquiry slip

Fiberglass ladders are strong and safe....

if they're Alco-Lite



Non-conducting, non-absorbent! Strong and light as an aluminum ladder. Tested safe around high voltages. Resist chemicals, acids, gases, fumes, moisture.

Meet ASA Code A14.2 for portable *metal* ladders. Wider side rails SOLID fiberglass—not plastic covered wood. Wide steps and rungs strong aluminum alloy. Ladders rigid, last longer. Maintenance negligible. Many models and sizes. *Send for CATALOG.*

Original Manufacturer of ALUMINUM Ladders

Aluminum Ladder Company
West Darlington Street Ext.
FLORENCE 4 S. CAROLINA

For more details circle NED-281 L1 on enclosed inquiry slip

NEW

STATIC SLIPSYN
synchronous motor control

No moving parts, precise synchronizing control up to 99% of synchronous speed. Static networks eliminate corrosion and wear failures. Positive adjustable pull out protection avoids false tripping. Static damper winding, field loss and incomplete starting sequencing protection available. For new or old motor control installations. For details, write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

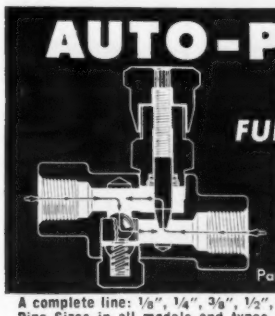
J-96186

Westinghouse

For more details circle NED-282 L1 on enclosed inquiry slip

AUTO-PONENT®

HYDRAULIC FULL FLOW VALVES



Flow Control, Needle, Check, for HYDRAULIC Power

Model KF Flow Control Valve with Dial and Knob adjustment for direct reading and duplicating reference. Now available in Aluminum for 3000 psi.

Pat. #2,841,174

A complete line: 1/8", 1/4", 3/8", 1/2", and 3/4" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.

MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure greater accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum—3000 psi; Steel and Stainless Steel—5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

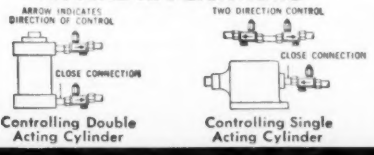
Model F Standard Flow Control Valve or Model H Needle Valve

Model RF Knob and Dial Flow Control Valve or Model KH Needle Valve.

Model PF Knob and Dial Flow Control Valve or Model PH Needle Valve for panel mounting

Model C Check Valve for In-Line Mounting.

TYPICAL APPLICATIONS



Controlling Double Acting Cylinder — Controlling Single Acting Cylinder

AUTOMATION AUTO-PONENTS INC. COMPONENTS ® 2929 GRANT STREET BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle NED-283 L1 on enclosed inquiry slip

FREE RELAY LITERATURE!

Gives valuable information about AGASTAT® time/delay/relays

New brochures and application data are now available on the electro-pneumatic AGASTAT . . . the most reliable line of instant recycling time/delay/relays for critical system control. Two popular industrial types are shown above:

Dial head model with calibrated head, offers linear adjustment over full range in one revolution. Five range options — from .05-sec. to 15 or more minutes.

New front needle valve model provides full span adjustment from .15-sec. to 5 minutes or more in one unit.

Both units are supplied in a wide range of AC or DC operating voltages . . . SPDTDB or DPDTSB contacts . . . with time delay on pull-in or drop-out.

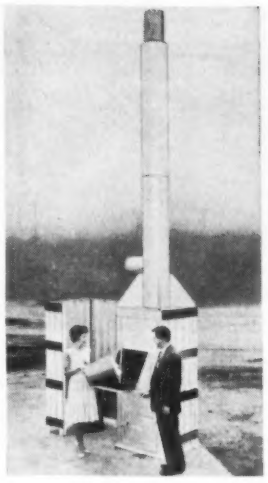
Write today to Dept. 13-1011 for detailed specifications and *Application Data* sheets showing interesting uses for these high-reliability relays.

AGASTAT TIMING INSTRUMENTS
ESNA ELASTIC STOP NUT CORPORATION OF AMERICA
ELIZABETH DIVISION • ELIZABETH, NEW JERSEY

IN CANADA: ESNA CANADA, LTD., 12 GOWER ST., TORONTO 18, ONTARIO, CANADA

For more details circle NED-284 L1 on enclosed inquiry slip

INCINERATORS have self-supporting stack



Model 240 and 300 Fire Engineer incinerators feature attractively painted exteriors to match modern plant and commercial buildings. Incinerators have 4½-in. thick high temperature refractory linings which also serve to minimize warping and rusting. Air intake system assures balanced combustion, eliminating fly ash. Other features include a barometric, self-regulating damper and self-supporting stack. Exterior paint is heat resistant. • **Fire Engineers, Inc.,** 8536 Pillsbury Ave., Minneapolis 20, Minn.

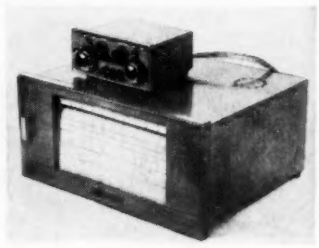
For more details circle NED-286 L1 on enclosed inquiry slip

EMERGENCY EXIT LIGHT has 6-v battery with charger

A 6-v, 22 amp-hr, plastic case, lead-acid battery with automatic charger is contained in Model 33 emergency exit light. The 6-v dc circuit is activated by relays if power for primary 115-v ac circuit fails. Available for surface, wall, or ceiling mounting, light has red glass front with 6-in. white lettering. Eight and 10-in. lettering is also available. Emergency circuit operates up to 6 hr continuously. • **Electric Cord Co.,** 432 Plane St., Newark 2, N. J.

For more details circle NED-287 L1 on enclosed inquiry slip

UNIVERSAL RECORDER used with various plug-in modules

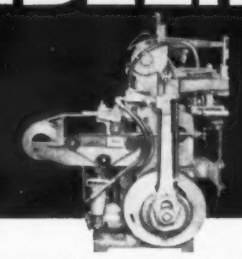


This universal recorder, available in both 5 and 11-in. strip chart sizes in single, dual, and multi-pen models, can operate as standard fixed-span recorder, or function with one or more external plug-in modules. Family of 24 modules allows the recorder's use as a strain gage, adjustable span and zero, resistance bulb, flow, temperature, pressure, or potentiometer-following recorder. No rewiring of recorder is necessary to change from one module to another. • **Westronics, Inc.,** 3605 McCart St., Ft. Worth 10, Tex.

For more details circle NED-288 L1 on enclosed inquiry slip

MUST YOU MEET

SHORT-RUN LABELING?



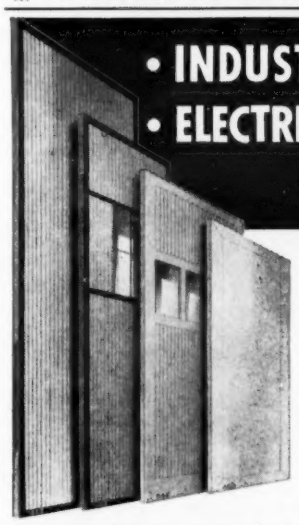
If short runs and a wide variety of labels are part of your labeling problem, this machine can help you. Industries such as drug, hardware, electronic, automotive and textile have found that *roll labeling without glue* offers matchless control, efficiency and convenience.

New Jersey Machine Corp. offers the economies of roll labels, the ability to imprint valuable data within a master label, and a quick-start no-glue labeling operation. Write today for full information.

Labeling, Cartoning, Paper Box Machinery
NEW JERSEY MACHINE CORPORATION

Main Office and Plant: 16th Street and Willow Avenue, Hoboken, New Jersey • Oldfield 9-0483
Factory Sales & Service Branches: 325 W. Huron St., Chicago 10, Ill. 2500 W. 6th St., Los Angeles 57, Cal.

For more details circle NED-290 L1 on enclosed inquiry slip



• INDUSTRIAL DOORS • ELECTRIC OPERATORS • HARDWARE

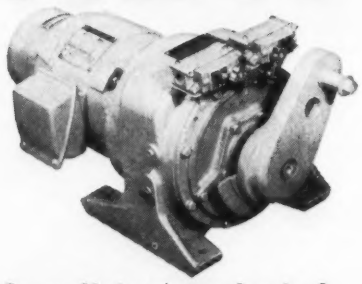
...R-W offers the most complete line available—all are designed for top service and maximum satisfaction!

R-W manufactures a complete line of doors, door hardware, fire doors and hardware and automatic electric operators that are specifically designed to economically meet the rugged demands of industry . . . and to fulfill these demands for years to come. Provides one dependable source for all of the equipment necessary to fill a door opening . . . components are "*made for each other*" to provide a perfect match. For the ultimate in quality, service, dependable operation and over-all economy—*make your industrial door installations 100% R-W Equipment.* Write today for free catalogs.

RICHARDS-WILCOX MFG. CO.
435 W. THIRD STREET • AURORA, ILLINOIS • Branches in Principal Cities

For more details circle NED-291 L1 on enclosed inquiry slip

NEW



Guardistor*-protected Moduline Motocylinder*

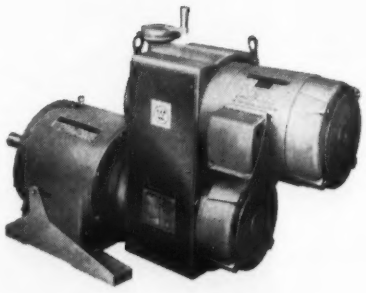
Motocylinders for materials handling jobs replace steam and air cylinders—are protected against burnout from any cause. Available in 1 to 20 hp. sizes, 8 to 24 inch stroke, 22, 41 and 61 crank rpm. Write to Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. for Bulletin AD-3760. *You can be sure . . . if it's Westinghouse.* *Trademark

J-96187

Westinghouse

For more details circle NED-285 L1 on enclosed inquiry slip

NEW



Adjustiflow drive

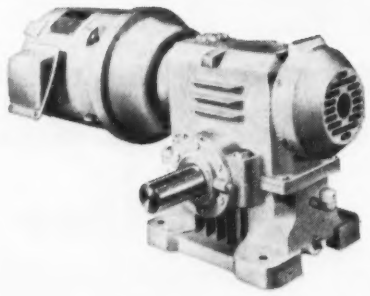
Dual cooling system reduces belt wear . . . key to longer belt life. Liberal overload capacity—full rated h.p. at the output shaft. For more information write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96193

Westinghouse

For more details circle NED-289 L1 on enclosed inquiry slip

NEW



worm gearmotors

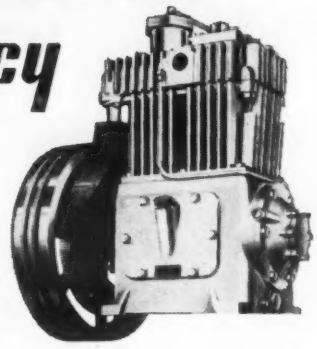
More torque for your money. Higher output torque for given input h.p. Meets all AGMA standards. Available in 1–20 h.p. range, ratios 5:1–70:1. Can be floor, ceiling, wall or vertically mounted. For B-8285 write to Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. *You can be sure . . . if it's Westinghouse.*

J-96192

Westinghouse

For more details circle NED-292 L1 on enclosed inquiry slip

Starting?
LOADLESS WITH
Quincy



A Quincy Compressor gets away to a smooth start each time because of patented Loadless Starting. This feature keeps the compressor unloaded until full operating speed is reached. The same exclusive system also provides free-rolling Loadless Stops.

Other features include Safe-Q-Lube pressure lubrication, light-weight automotive type pistons, cushioned steel valves and perfectly balanced crankshaft. Authorized service available across the country — around the clock.

Models from 1 to 90 CFM. *Write for catalog.*

QUINCY COMPRESSOR CO., Quincy, Ill.

Makers of the World's Finest Air Compressors

For more details circle NED-293 L1 on enclosed inquiry slip

ROUGH FLOORS? MAGIC FLOOR *repairs* INDUSTRIAL FLOORS *in minutes!*

SO EASY TO USE—Even Your Secretary Could Apply It!

Why halt traffic for floor repairs in your busy plant? **Ranco MAGIC FLOOR** is ready-to-use, and needs no drying time. Just compress with ordinary lift truck—no laborious tamping or troweling. Traffic can roll **immediately** over the fresh floor patch.

MAGIC FLOOR is now available in a highly versatile, fine grading which can be applied thick or thin to excellent feather edges. Ideal for EXPANSION JOINTS broken to a V-shape. No skilled labor needed.

FREE SAMPLE: Send for a 2-gallon sample of MAGIC FLOOR, freight prepaid, no charge or obligation. Simply request on your company letterhead.

Write: RANCO INDUSTRIAL PRODUCTS CORP.
13311 M Union Avenue Cleveland 20, Ohio

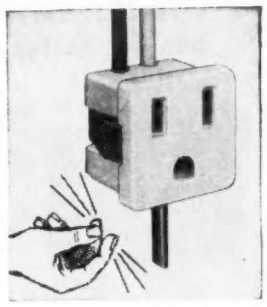
For more details circle NED-294 L1 on enclosed inquiry slip

DISC BRAKE
for industrial machinery, vehicles

Low-cost, off-the-shelf disc brake for wide use in industrial machinery and small vehicles is offered with 7, 12, and 18-in. discs which provide torque capacities up to 9000 lb-in. Kinetic energy capacity ranges to 1 million ft-lb. Brake can be applied by hydraulic or pneumatic action and provides equal torque forward or backward. It has a universal mounting and automatic adjustment for lining wear. • **Goodyear Tire & Rubber Co.**, 1144 E. Market St., Akron 16, Ohio.

For more details circle NED-296 L1 on enclosed inquiry slip

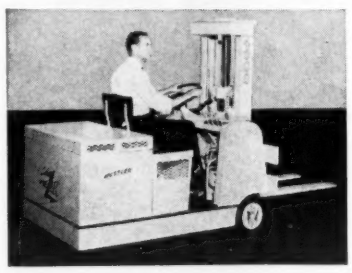
SNAP-IN GROUND OUTLET
fits a 31/32-in. square opening



Fitted with a spring steel mounting clip, this snap-in U-ground convenience outlet will fit a 31/32-in. square opening in any 0.025 to 0.095-in. thick material. The 15-amp, 125-v unit measures 1 1/32 in. across the face and has 6-in. black and white leads of No. 14 AWG 105° C AWM plastic wire, with No. 16 green plastic wire on the ground leg. AF-type asbestos wire leads are available. Outlet is offered in gray, brown, black, and white. • **Circle F Mfg. Co.**, 720 Monmouth St., Trenton 4, N. J.

For more details circle NED-297 L1 on enclosed inquiry slip

FORK LIFT TRUCKS
capacities through 6000 lb



Hydro-static drive with fewer components and resultant lower maintenance requirements is featured on the Hustler Hydre-Lec Series of lift trucks with capacities through 6000 lb. Elimination of all speed controls, resistors, much of the wiring, and all but one magnetic contactor permits low seating, excellent driver comfort, and highly stable center of gravity. Full efficiency is provided at infinitely variable speeds from creep to 12 mph. • **Heifred Corp.**, Church & Elm Streets, Willoughby, Ohio.

For more details circle NED-298 L1 on enclosed inquiry slip

871B

All These New Improvements—

- ***NEW*** • Lower breaking and running torque
- ***NEW*** • Non-settling, non-hardening, homogenized composition
- ***NEW*** • Can be used in below freezing weather
- ***NEW*** • Increased lubricating and sealing qualities
- ***NEW*** • Prevents rust and corrosion

Now in tubes and cans

FREE TEST SAMPLE PROVES HOW!

You'll save countless man hours and avoid costly replacement of broken studs, bolts, etc., with the protective cushioning action provided by the colloidal copper composition of C5-A. Improved C5-A Lubricates and Seals for fast, easy application and removal. Gives same protective performance even after high-pressure, high-temperature use, up to 1800° F. Can be used on all metals and plastics.

FELT PRODUCTS MFG. CO.
Dept. 68, 7450 N. McCormick Blvd., Skokie, Illinois

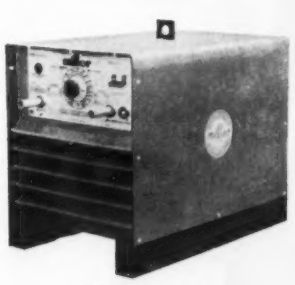
- ✓ Ends seizing and galling even up to 1800° F.
- ✓ Reduces wrench torque
- ✓ Stops needless stud breakage
- ✓ Permits repeated re-use
- ✓ Speeds assembly and disassembly
- ✓ Prevents galling of stainless steel

TRY C5-A NOW . . .

Manufacturers, refiners, and power producers find C5-A ideal for boilers, face plate studs, etc. *Write for your free test sample today!*

For more details circle NED-299 L1 on enclosed inquiry slip

YOU GET MORE
WITH A miller



GOLD STAR SRH

GOLD STAR SR

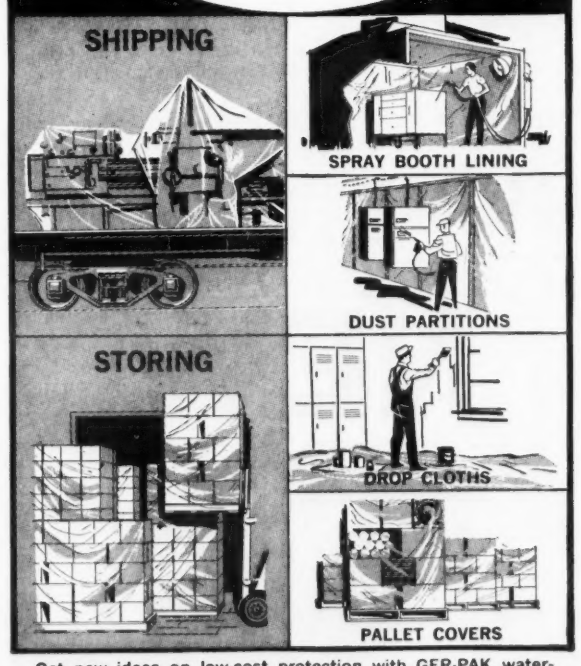
. . . Much more! More and better welds in less time, for one thing. You buy the welder just once . . . but every minute it's in use, it's bearing big interest in the form of increased production. More welder life too: Better basic design combines with Miller's own selenium rectifier to deliver performance, reliability and rectifier durability never approached elsewhere. And more economy too? Yes, especially more economy. That's why motor generator sets — even new ones — are being replaced daily with Miller Gold Star SR welders.

Write for descriptive literature on the Miller Gold Star SR or SRH, or see your local Miller dealer for a demonstration on the how and the why of the "More You Get With a Miller." He proves it! Also available upon request is a new and interesting pamphlet "Rectifiers for Welding" — which you should have.

miller ELECTRIC MANUFACTURING COMPANY • APPLETON, WISCONSIN

For more details circle NED-295 L1 on enclosed inquiry slip

6 WAYS GER-PAK® POLYETHYLENE SHEETING PROTECTS



Get new ideas on low-cost protection with GER-PAK waterproof polyethylene sheeting. For shipping, storage, work in process, products and equipment—bulk or small—you're fully protected against weather, dust, dirt and water. For many daily in-plant needs, heavy duty GER-PAK sheeting is a **time and money saver.** Comes in seamless sheeting up to 40 feet wide or tubing up to 20 ft. lay-flat width (standard thicknesses are 1-mil (.001 in.) to 10-mil (.010 in.). And for positive sealing, use new super-adhesive GER-PAK Polyethylene MIRACLE TAPE®, specifically designed for use with GER-PAK sheeting.

WRITE TODAY FOR SAMPLES AND LITERATURE.

GERING PLASTICS

division of Studebaker-Packard Corp., Kenilworth, N. J.

OTHER USES FOR GER-PAK POLYETHYLENE SHEETING

bags and liners for drums, cartons, crates, bins • in-plant water-proofing • equipment covers • wrapping tools • machinery covers • temporary shipping platform covers

For more details circle NED-300 L1 on enclosed inquiry slip

BUILT-IN RELIABILITY

Whatever shape or shell you require, performance reliability is built into it by Hackney forming methods. The cold drawn process provides a seamless shell with uniform wall thickness from top to bottom. Seamless design eliminates longitudinal welds...gives you strong, lightweight units with smooth, clean surfaces.

Hackney shapes are spherical, cylindrical, conical or tapered. Sizes: 1 qt. to 100 gal.; 2" to 32" diameters. Made in steel, nickel, magnesium, ultra-high-strength stainless steels, hot work tool steels, molybdenum and titanium.

For help with your ideas, write to the address below:

Hackney MILWAUKEE

Pressed Steel Tank Company
Manufacturer of Hackney Products
1450 South 66th Street, Milwaukee 14, Wisconsin
Branch offices in principal cities

CONTAINERS AND PRESSURE VESSELS FOR GASES, LIQUIDS AND SOLIDS

For more details circle NED-301 L1 on enclosed inquiry slip

MEASURE RPM EASY—IMMEDIATELY—ELECTRONICALLY!

NEW **Pioneer Photo** •TACHOMETER•

COMPLETELY TRANSISTORIZED CIRCUITRY

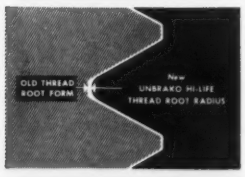
Press the button, aim the beam, read the speed . . . that's how easy and fast RPM measurement is with the new Pioneer Photo Tachometer. Ideal for use on lathes, drills, presses, drives and wheels. Operates electronically, with no wires or mechanical connections. Send for free bulletin.

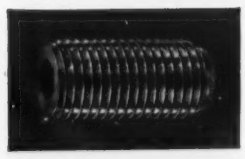
THE PIONEER ELECTRIC & RESEARCH CORP.
Subsidiary of Penn Controls, Inc.

727 Circle Avenue • Forest Park, Illinois

For more details circle NED-302 L1 on enclosed inquiry slip

NEW! UNBRAKO Set Screw with the counterbore knurl!





- Patented* counterbore knurl permits easier and deeper penetration, greater knurl contact—hence maximum holding power
- Positive locking action before and unparalleled holding power at the recommended seating torque
- Hi-Life thread form, with its smoothly radiused root, distributes stresses to provide significantly higher tightening torques

Thanks to its counterbore knurl and Hi-Life threads, the new UNBRAKO is "the one that won't work loose." Your SPS distributor has a complete stock on hand *now*. Sizes #4 through 1 in. For the new booklet on UNBRAKO High Torque Set Screws, write to Standard Pressed Steel Co.

*No. 2,992,669—patented July 18, 1961

INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-303 L1 on enclosed inquiry slip

POWER CONTROLS
15-amp units have circuit breakers

Push-to-reset circuit breakers, instead of fuses, are featured by these master power controls rated 15 amp at 130 v. Units have heavy-duty line cords, drawn metal cases, mounting ears, and a nylon strain relief. Model 20CB in center has six outlets, control switch, and pilot light. Model 24CB at right, with same arrangement, is fitted with ground convenience outlets and a U-ground cord set. Model 30CB at left has four outlet and switch sets, each in a contrasting color. • **Waber Electronics Inc.**, Hancock & Somerset Streets, Philadelphia 33, Pa.

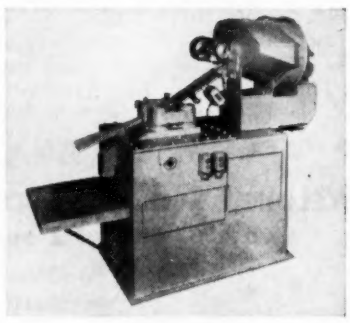
For more details circle NED-304 L1 on enclosed inquiry slip

MINIATURE RHEOSTAT
high performance 12½-w unit

Despite its size, this miniature R-12½-w power rheostat affords high performance characteristics. It is available for standard requirements, as well as with special shafts and bushings, custom taper windings, and other variations as specified. • **Model Engineers & Mfg., Inc.**, Tru-Ohm Products Div., 3426 W. Diversey Ave., Chicago 47, Ill.

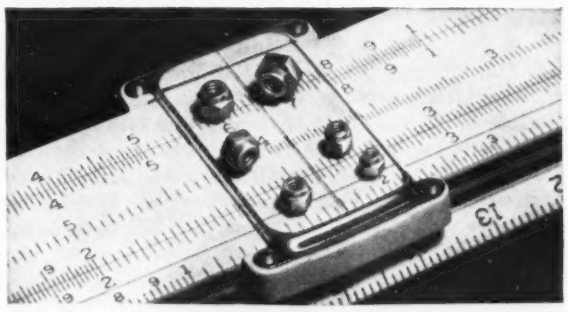
For more details circle NED-305 L1 on enclosed inquiry slip

PINCH POINTER
points screw blanks at 400 per min



Screw blanks or any other product requiring needle or diamond-type points, from No. 2 size up to 5/16-in. diameter screw, are pointed at a rate of 400 pieces per minute by the Hi-Speed 400 pinch pointer. It will process any length from 9/32 to 2½ in. Set up in 15 min, unit has a Syntron vibrator for positive feed. A 5-hp motor powers the pinch mechanism, whereas the four-speed rotary hopper with V-belt drive is powered by a ¾-hp motor. Helical gears run in an oil bath. Machine measures 30 x 66 in. and stands 66 in. high. • **Behr Machinery & Equipment Corp.**, 1190 Seminary St., Rockford, Ill.

For more details circle NED-306 L1 on enclosed inquiry slip



Microsize FLEXLOCs save weight and space, increase mechanical reliability of your miniature assemblies. Reusable, they are unaffected by moisture, dryness, oil or grease.

Microsize FLEXLOC locknuts protect mechanical integrity of small assemblies

- Hold tight despite impact, shock, vibration
- Require no auxiliary locking elements
- One-piece, all-metal design . . . every thread works, including those in locking section
- Serve as locknuts or stopnuts
- Sizes #0-80 through #4-40 in alloy steel, stainless, aluminum, brass

See your authorized industrial distributor. Or write SPS—manufacturer of precision threaded fasteners and allied products in many metals.

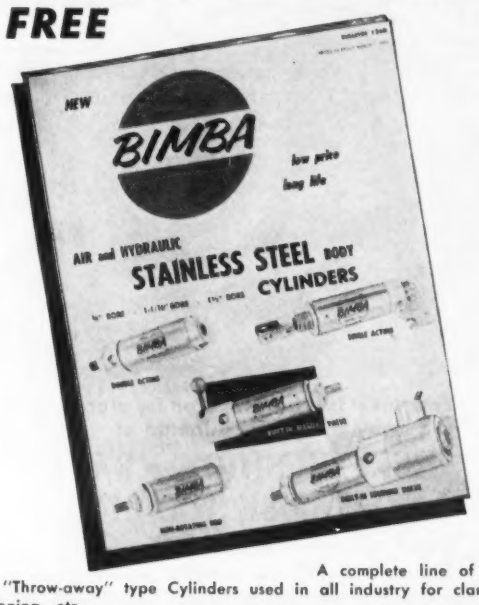
INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-307 L1 on enclosed inquiry slip

JUST OFF THE PRESS

New Complete CATALOG with Prices.

FREE



A complete line of small bore "Throw-away" type Cylinders used in all industry for clamping, positioning, etc.,

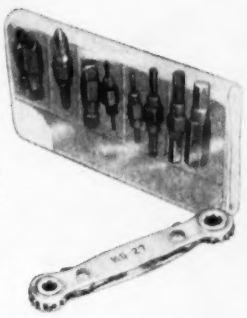
Write for CATALOG TODAY

Write for latest catalog and name of nearest distributor. BIMBA MANUFACTURING CO. 110 Main St., MONEE, ILL.

For more details circle NED-308 L1 on enclosed inquiry slip

SPECIAL TOOLS FOR SPECIAL JOBS 3

NEW OFFSET RATCHET BIT SET SPEEDS CRAMPED ASSEMBLY WORK



Combination of reversible, double-ended ratchet wrench and short bits fit where most regular tools cannot—permits you to do difficult jobs quickly, easily. The bits are designed to hold securely even for upside-down work. All parts are top quality tempered steel for long service, hard use.

The No. 27SG set has these nine bits, shown from left to right, to handle almost any production fastener:

- Phillips head screwdriver for smallest through No. 9 sizes
- 3/8-in.-wide screwdriver blade
- 5/64 and 3/32 in. hex keys
- .050 and 1/16 in. hex keys
- 1/8 and 5/32 in. hex keys
- 1/4-in.-wide screwdriver blade
- 3/16 and 7/32 in. hex keys
- 1/4-in.-square drive adaptor
- 1/4 and 5/16 in. hex keys

(No. 27 set with four—No. 27SM with five—assorted bits also available)

Another special tool for a problem job in industry by K-D, the nation's largest maker of special tools for professional auto maintenance.

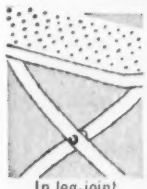
Watch for the solution to your problem

K-D TOOLS *Making Hard Jobs Easy Since 1919*

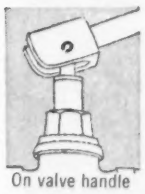
K-D MANUFACTURING COMPANY
Lancaster, Pa.

For more details circle NED-309 L1 on enclosed inquiry slip

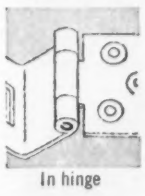
Use it as a hinge pin... SEL-LOK spring pin



In leg-joint of ironing board



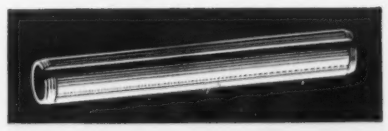
On valve handle



In hinge

- Swift fastening—just drill and drive
- Secure locking—won't work loose despite shock or vibration
- Eliminates costly tapping, reaming, peening, milling
- Can be reused repeatedly
- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.

SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through ½ x 4 in.) and beryllium copper (1/16 x 3/16 through ¼ x 3½ in.). See your SPS distributor or write for Bulletin 2670.



INDUSTRIAL FASTENER Division SPS
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-310 L1 on enclosed inquiry slip

Your most fragile items can be protected by the soft cushioning of

JIFFY KUSHION KRAFT CELLULOSE WADDING

Clean, attractive economical.
Makes packing so simple.
Complies with Fed. Specs. PPP-C-843.

Write for your free sample today!

JIFFY MANUFACTURING COMPANY
360 Florence Avenue, Hillside, New Jersey

For more details circle NED-311 L1 on enclosed inquiry slip

APCO TORQUE TOOLS TO MEET EVERY REQUIREMENT

Apco Mossberg manufactures over 75 standard styles of torque tools ranging from an inch gram to 2000 foot pounds. In addition, they build many special tools for specific applications.

Every Apco torque tool is manufactured to rigid specifications to assure you the best available. They meet government standards, and are built to withstand 50,000 flexes without adjustment.

The Apco Mossberg Catalog of Torque Tools describes all styles, giving full information as to capacity, sizes and price. Write for your copy now.

- Special Purpose Wrenches
- Original Equipment Wrenches
- Torque Tools

APCO MOSSBERG COMPANY
161 Lamb Street, Attleboro, Mass.

For more details circle NED-312 L1 on enclosed inquiry slip

24 MILLED NEOPRENE STANZOILS FOR LONGER WEAR IN

CHEMICALS

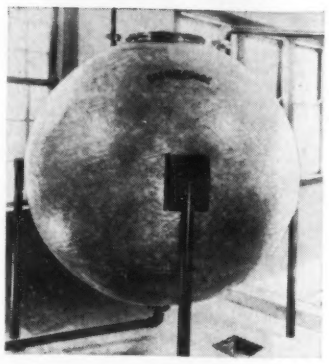
Pioneer chemical resistant gloves go on the job with more wear built in because they're made of **milled** neoprene tested to give longer service in 103 basic oils, greases, acids, solvents, and other chemicals. There are 65 Pioneer Glove styles, including the well-known Pioneer Stanzoil brand, to provide liquidproof hand protection for every industrial job requirement.

PIONEER

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-313 L1 on enclosed inquiry slip

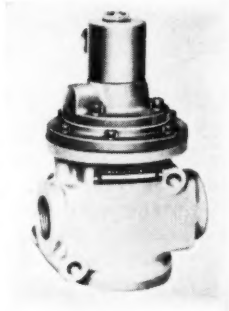
PLASTIC TANK
reinforced type resists corrosion



Paper, chemical, textile, metals, petroleum, and other industries having corrosive conditions that require equipment with high chemical resistance can use the Chemisphere as a processing or storage unit. The glass fiber - reinforced, bisphenol A polyester tank has a high strength-to-weight ratio and is available in diameters of 6 ft (847 gal) and 8 ft (2009 gal). Spherical shape provides a minimum surface area per unit of volume and minimum stress concentrations. Small model with manhole, line connections, couplings, and drain connection is priced at $585. Large model is $900. • **Justin Enterprises, Inc.**, 3755 Edwards Rd., Cincinnati 9, Ohio.

For more details circle NED-314 L1 on enclosed inquiry slip

FLUID POPPET VALVE
for on-off processing control



Available normally open or normally closed, this 1-in. poppet-type two-way air control valve is intended for on-off control where air is used for processing or fluid power applications. Valve for vacuum to 200 psi service is available in ¾, 1, and 1¼-in. NPT sizes. Removable and reversible seals, a minimum of parts, interchangeability of parts with those of other valves in the line, and cushioning of moving parts to prevent impact damage are features. Valve can be fitted with remote air, solenoid, momentary solenoid, and time delay heads for delayed operation, delayed release, or both. • **Hoffman Valves, Inc.**, 2360 W. Dorothy Lane, Dayton 39, Ohio.

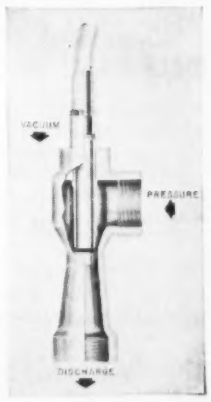
For more details circle NED-315 L1 on enclosed inquiry slip

WELDING & CUTTING OUTFITS
two kits will cut 2 and 4-in. steel

Three heads for welding metal up to ⅜ in. thick and a cutting nozzle for slicing 2-in. steel are furnished in the One Hundred welding and cutting outfit. Lightweight Puroz W-200 torch and compact CW-200 cutting attachment are also included. Small oxygen and acetylene regulators add to the portability of this $100 outfit. Also offered is the One Thirty outfit priced at $130, which contains a W-201 welding torch and three welding heads for ⅜-in. work with capacity up to 1 in. The CW-202 cutting attachment is furnished with nozzle for cutting up to 4 in. steel. Its capacity is up to 8 in. Both outfits have 12½ ft of oxygen and acetylene hose, friction lighter, and goggles. • **Linde Co.**, 270 Park Ave., New York 17, N. Y.

For more details circle NED-316 L1 on enclosed inquiry slip

POWDER-FLUID EDUCTOR
mixes dry powders with fluids



Operating on a venturi principle, the Mo-Jet eductor is designed for mixing dry powders or flake materials with fluids, with positive control of the amount of product mixed. Unit is self-cleaning since dry material comes through the large suction tube. It will handle certain types of powders or materials which hydrate almost instantly on contact with carrying fluid. Eductor will also perform efficiently in mixing two fluids and provides uniform entrainment. • **Brine Service Co.**, 4010 Bluebonnet, Houston, Tex.

For more details circle NED-317 L1 on enclosed inquiry slip

FREE!

If heat processing is your job— don't miss this "idea-packed" booklet

Never before have so many sound basic ideas on heat processing been available under one cover.

Written by engineering experts at Michigan Oven Company, it offers practical suggestions on what to look for in an oven regardless of your application.

Why not send for "The Handbook of Oven Facts"? It may be the most important decision you make today! Or, if you have a specific application, a MOCO representative will be pleased to call.

MICHIGAN OVEN COMPANY
419 Brainard, Detroit 1, Michigan

For more details circle NED-318 L1 on enclosed inquiry slip

Lintern

Safety and Signal Lanterns

Alert your personnel quickly, clearly with these big, easy-to-see Glowlites and Traffic Signals. Various other models. Available in single units or assemblies.

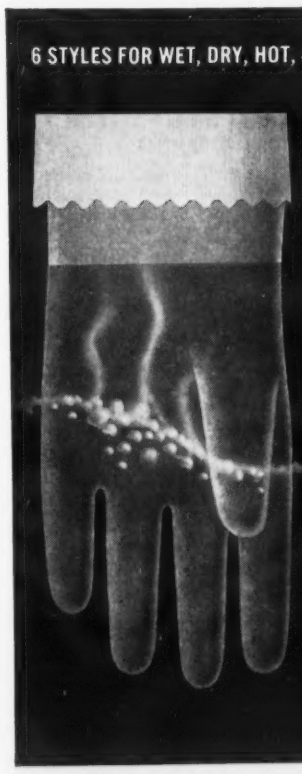
Write for FREE literature.

Larco, inc. Distributor of Lintern Corporation Products
Route 20 East, Painesville, Ohio

For more details circle NED-319 L1 on enclosed inquiry slip

6 STYLES FOR WET, DRY, HOT, OR COLD PROTECTION PLUS

COMFORT



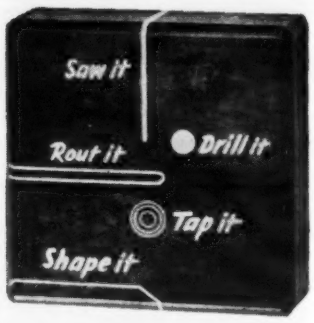
Comfort is an important safety factor when the job involves any combination of heat, cold, chemicals, or abrasion. Pioneer's comfortable linings keep gloves on, hands safe. Liquidproof coatings of neoprene or Pylox™ protect against penetration. See and select from these and 59 other Pioneer glove styles shown in your free copy of the Pioneer Industrial Glove Catalog. Write for yours.

PIONEER

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

For more details circle NED-320 L1 on enclosed inquiry slip

have you worked with BENELEX...



the dense, laminated hardboard?

SEND FOR THIS FREE SAMPLE...and see for yourself what this revolutionary material can do for you. Benelex accepts any machining operation, quickly and easily, to close tolerances. It's light—just 1/6 the weight of steel. Every bit of it is usable—it's a genuine Masonite hardboard product.

What can you do with Benelex? Find out by sending for your free sample and book of specifications and properties.

Write to Masonite Corporation, Dept. NED-11, Box 777, Chicago 90, Ill.

MASONITE
shows the way

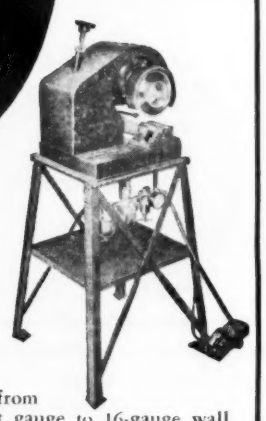
Masonite and Benelex are registered trade-marks of Masonite Corporation® —manufacturer of quality panel products for building and industry.

▲ For more details circle **NED-321 L1** on enclosed inquiry slip ▲

...Pays for itself!

NO MATERIAL LOSS

Cuts up to 2,000 tubes per hour!



CONTINENTAL PIPE & TUBE ROTARY CUT-OFF MACHINE

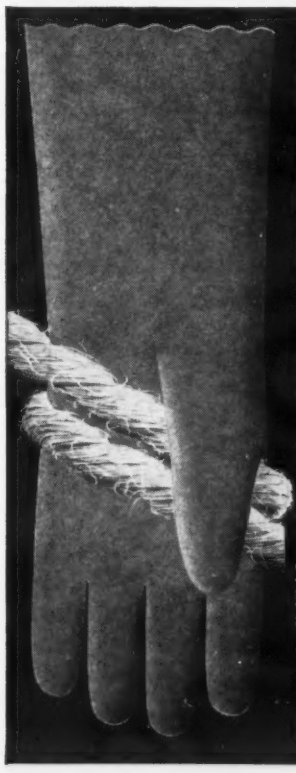
It zips right through tubes from 3/8" to 1¼" O.D., from light gauge to 16-gauge wall thicknesses. Adjustable table with Tri-Roller Assemblies and Manual Stock Loader. Also Cut-Off Machines for pipes and tubes up to 12" diameter, air or hand-operated.

MACHINE RENTAL PLAN

SINCE 1919

Continental machine co.
2345 W. NELSON ST. • CHICAGO 18, ILL.

▲ For more details circle **NED-322 L1** on enclosed inquiry slip ▲



27 STYLES FOR MORE HOURS OF BUILT-IN RESISTANCE TO

ABRASION

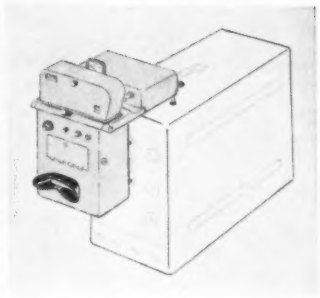
The toughness and flexibility of Pioneer "Stanflex" and "Pacemaker" coated, liquid-proof gloves are blended for the job. That means more wear plus more comfort, equalling more efficiency per worker. You can easily select the Pioneer glove with the right combination for your heavy-duty jobs: just send for the Pioneer Glove Selector. It's free and easy to use.

PIONEER

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

▲ For more details circle **NED-323 L1** on enclosed inquiry slip ▲

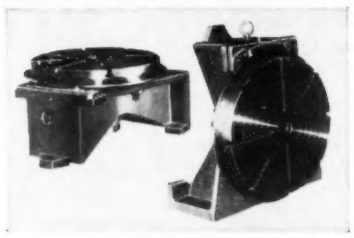
OSCILLOGRAPH RECORDER
allows viewing while recording



Self-contained Mark II continuous oscillograph recorder can be attached to any conventional oscilloscope to afford simultaneous viewing and direct recording of traces. Multichannel recording of multitrace scopes is also possible. A flat field lens system directs the CRT beam onto 70-mm Lino-Writ photo recording paper or film. Transport mechanism controls speed to give the desired resolution. Single exposures are also possible, and record is quickly accessible. Recorder is useful for shock, flutter, and vibration studies and monitoring of environmental tests. It can also be adapted for computer data display recording. Standard recording speeds are 0-25 cm/sec with capacity of 200 ft and 25-200 cm/sec with capacity of 2000 ft. • **Par Products Corp.**, 602 Colorado Ave., Santa Monica, Calif.

▲ For more details circle **NED-324 L1** on enclosed inquiry slip ▲

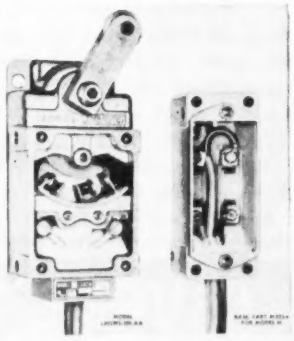
ROTARY TABLE & ANGLE PLATE
for inspection, layout, machining



Combination rotary table and angle plate can be used horizontally or vertically for a variety of inspection, layout, and machining jobs. The free-wheeling face plate rotates 360 degrees with a radial accuracy to 5 min vernier reading. Graduations are in a 45-degree angle for convenient reading in either horizontal or vertical position. The 18-in. diameter table has flatness and runout to 0.0002 in. Unit has positioning rings and eight T-slots to facilitate loading and clamping of parts. A precision centering plug and sine bar arrangement for Jo block positioning is optional. • **Machine Products Corp.**, 6771 E. McNichols Rd., Detroit 12, Mich.

▲ For more details circle **NED-325 L1** on enclosed inquiry slip ▲

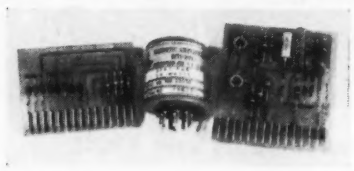
LIMIT SWITCHES
prewired and epoxy sealed



Wiring entrance of Models L and M Lox-switch limit switches is sealed with an epoxy potting compound to protect the internal mechanism against moisture. Switches are furnished prewired with 6 ft of No. 14 machine tool wire. Model L switches are also available for manifold mounting, with no conduit opening and with the back wiring entrance epoxy sealed. Two-circuit switches are furnished with four leads, whereas three-circuit switches have six leads. All circuits are isolated and color coded. • **R. B. Denison Mfg. Co.**, 386 Broadway, Bedford, Ohio.

▲ For more details circle **NED-326 L1** on enclosed inquiry slip ▲

CONTROL MODULES
used in various types of equipment



Rapid response magnetic switch is the central element in the expanded line of Modular Stat - Pak control components. Time delay units, diode logic units, 5, 10, and 20-w switches, timing generators, and power supplies which form a compatible and flexible static control system are available from stock. These solid state, plug-in modules can be quickly and economically assembled into such systems as sequential programmers, numerical control and process controllers, automatic and semi-manual machine controls, and power logic circuits. • **Siegler Corp.**, Magnetic Amplifiers Div., 632 Tinton Ave., New York 55, N. Y.

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YOUR BEST MOVE IS TO MOVE WITH

MERRILL

MATERIAL HANDLING DEVICES FOR THE MOST IN *Safety and Economy*

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.

Over 25 Material Handling Devices described in our catalog C-3.
Ask for a copy.

MERRILL BROTHERS
Producers of Drop and Press Forgings
56-13 Arnold Ave., Maspeth, N. Y.

1-60A

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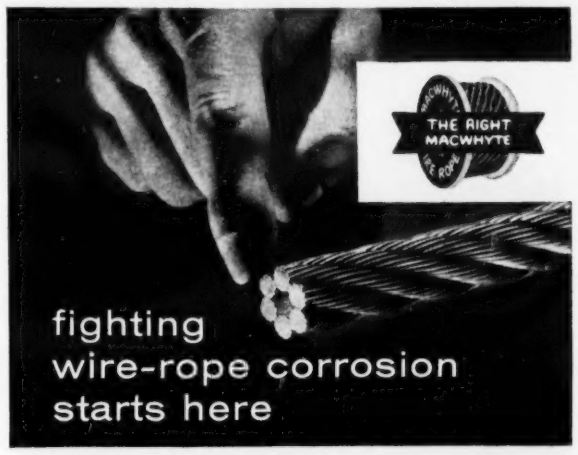


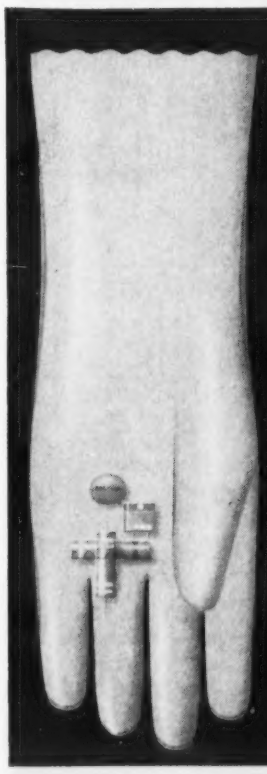
—with the right Macwhyte

Is your wire rope exposed to corrosive conditions? To marine atmospheres? Have you tried Macwhyte Corrosion-Resistant Wire Rope? Stainless Steel, Monel Metal, Galvanized Steel, Plastic coated, or Nylon coated. You will find what you need in the complete Macwhyte line. Sizes available from 1/32" to 1½" in any length. Ask for Bulletin 49-30. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

MACWHYTE

253

▲ For more details circle **NED-329 L1** on enclosed inquiry slip ▲



8 STYLES FOR DEPENDABLE SHEERNESS IN

PRODUCT CARE

When the product needs protection and the job requires dexterity, Pioneer blends sheerness with wearability in just the right degree. One of the 8 Pioneer styles of Nimble Fingers™ or Sheergrip™ gloves in latex, neoprene or Pylox™ is designed for **your** job. Selection is easiest from the Pioneer Industrial Glove Wall Chart, covering all 65 glove styles. Write for your free copy.

PIONEER

The PIONEER Rubber Company, 234 Tiffin Road, Willard, Ohio

▲ For more details circle **NED-330 L1** on enclosed inquiry slip ▲

TRICKY BENDS ARE NO TRICK

With Pedrick Production Benders any bend is an easy bend—fast and economical, too! Pipe, tubing, bus bar or structural metal—*bend with Pedrick.*

PEDRICK TOOL AND MACHINE CO.
3640 N. Lawrence St., Phila. 40, Pa., Dept. 6

"You'll profit by reading the NEW PEDRICK LINE BULLETIN. Write today."

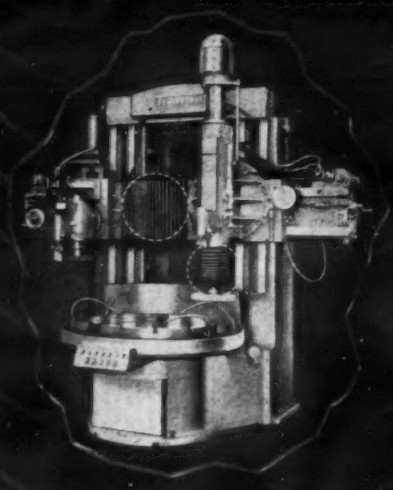
BEND WITH PEDRICK

For more details circle NED-331 L1 on enclosed inquiry slip

PROTECTED

GORTITE Pliable protection

is fabricated to order — 1 or 1000 parts without molds! All BELLOWS . . . BOOTS . . . SLEEVES . . . WAY-PROTECTORS, etc., are fabricated from new, neoprene-base materials, nylon-coated fabrics, fiberglass, Teflon, etc., to meet requirements:



GORTITE sleeve on quill spindle of Frauenthal grinder; 25" stroke. L-type protector on cross rail.

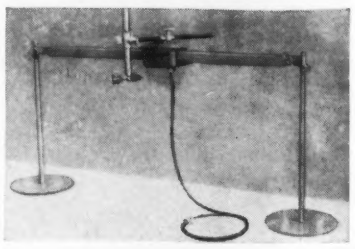
In thousands of similar ways these GORTITE parts are operating at temperature extremes -40° F. to 500° F., without cracking: GORTITE protection is impervious to oil, grease, dust, dirt, hot chips, chemicals, sand and other abrasives. Bulletin AH-3 send on request to:

A&A MFG. COMPANY INC.
712 S. 12th St.
Milwaukee 4, Wisconsin

ALL SHAPES AND CONTOURS—
BELLOWS . . . BOOTS . . . SLEEVES . . . WAY-PROTECTORS
FOR HYD. CYLINDERS, RAMS, JACKS, WAYS, ETC.

For more details circle NED-332 L1 on enclosed inquiry slip

TORCH SEAMER with self-supporting stanchions



Pair of self-supporting stanchions afford portability and quick set-up of the CayugaMatic seamer used for welding or cutting on sloping, vertical or horizontal surfaces. Stanchions adjust independently in height and angle. Seamer carriage is propelled by rack and pinion drive along a heavy walled, square steel tube used as a track. Variable speed 110-v ac/dc motor controls carriage speed from 8 to 120 ipm. Thrust is sufficient to propel carriage vertically while carrying a 35-lb load. Standard tracks are 5-ft long, although one-piece 20-ft lengths are available. Long sections can be joined for any overall track length. Universal torch holder adjusts for 1¼ to 1¾-in. torch barrels. • **Cayuga Machine & Fabricating Co.**, 200 W. Gould Ave., Depew, N. Y.

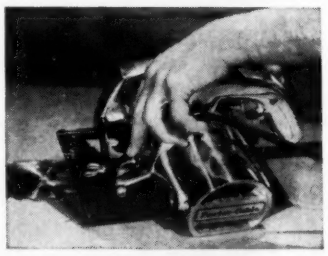
For more details circle NED-333 L1 on enclosed inquiry slip

WELDER'S GLOVE fits either hand

Reversible feature of the Solo welder's glove allows it to be worn on either hand. Glove can be purchased singly instead of in pairs. It is made in Sea Green color of tanned cowhide, treated for softness and shink resistance. Cuff is flame-resistant olive drab duck with bright red binding. • **Singer Glove Mfg. Co.**, 860 W. Weed St., Chicago 22, Ill.

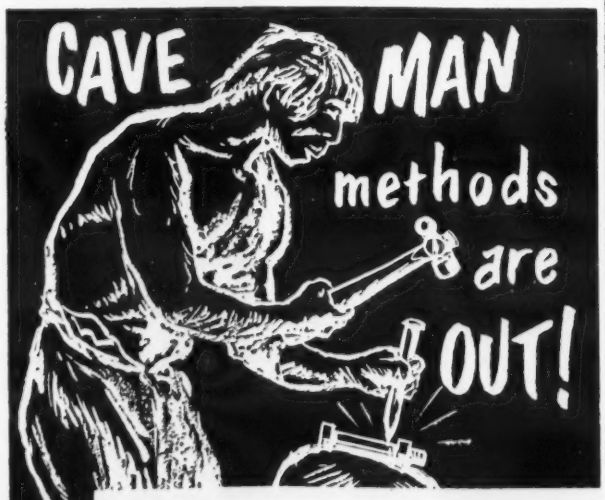
For more details circle NED-334 L1 on enclosed inquiry slip

7-IN. POWER SAW calibrated for straight, angle cuts



Weighing only 10 lb, ball bearing equipped Model 177 heavy duty 7-in. power saw will cut to a depth of 2⅜ in. at 90 degrees and 1⅞ in. at 45 degrees. The 12-amp motor has an idle speed of 4500 rpm. A built-in shaft lock securely locks the shaft for quick, easy blade changes. Convenient controls and calibrations facilitate raising and lowering the blade and positioning for cutting depth and angle. Telescoping guard with miter lip prevents jamming at start of cut, and a clutch eliminates kickback. • **Rockwell Mfg. Co.**, Power Tool Div., 400 N. Lexington Ave., Pittsburgh 8, Pa.

For more details circle NED-335 L1 on enclosed inquiry slip



Modern industry uses KROIL

. . . when some stuck together part threatens production. They won't take a chance on breaking the part with brute strength.

KROIL LOOSENS FROZEN PARTS

As one customer said, **"Kroil loosens everything from an embalmer's needle to a bulldozer."**

Another wrote, **"Before trying Kroil on heat treat trolleys, we broke off every nut . . . since then we have not lost one."**

You, too, can get these results. Try Kroil on our make-good guarantee. Accept our combination offer, a gallon of Kroil, **$4.35**, and a Kroiler (squirt gun worth $1.50) for **$5.25**, F.O.B. Nashville. Order direct.

KANO LABORATORIES
1074 THOMPSON LANE • NASHVILLE, TENNESSEE

For more details circle NED-336 L1 on enclosed inquiry slip

EMCOR® CABINETS OFFER MORE EXTRA ADVANCED DESIGN AND QUALITY CONSTRUCTION FEATURES

- Jig assembly line fabrication provides rigid quality control and assures compatibility of frames.
- 14 gauge steel frame construction assures greater ruggedness and rigidity.
- Heliarc* welds and electronically controlled spot welds provide superior strength.
- Continuing research and development by Roy C. Ingersoll Research Center maintains EMCOR metal cabinetry leadership.

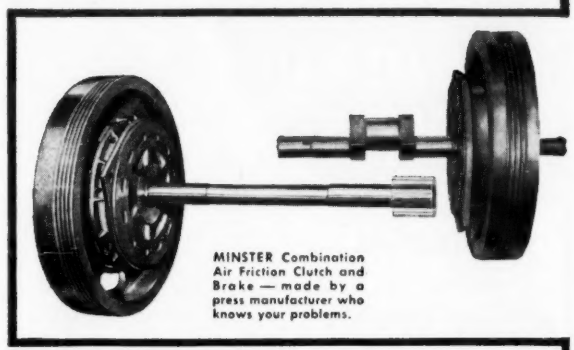
*Registered trademark of Linde Air Products Co.

WRITE TODAY FOR CONDENSED CATALOG 106
Originators of the Modular Enclosure System
INGERSOLL PRODUCTS
Division of Borg-Warner Corporation
630 CONGDON • DEPT. 1247 • ELGIN, ILLINOIS

For more details circle NED-337 L1 on enclosed inquiry slip

TO INCREASE PRESS EFFICIENCY

MINSTER® CLUTCHES FOR PRESS CONVERSIONS



MINSTER Combination Air Friction Clutch and Brake — made by a press manufacturer who knows your problems.

Here's why it is profitable to convert to Minster Clutches:

- Eliminates down time because of clutch failure
- Reduces maintenance by eliminating costly and frequent parts replacement
- Increases die life because of smooth, shock-free clutch engagement
- Reduces operator fatigue and improves safety because press is easier to operate, easier to control
- More productive cycles per hour on single cycle operation
- Easier, more rapid die setting

Bulletin CC 57 describes Minster Clutches for press conversion. Copy by request on company letterhead.

THE MINSTER MACHINE COMPANY
MINSTER, OHIO

For more details circle NED-338 L1 on enclosed inquiry slip

CLOSURES

To Protect Threads, Tubes, Valves, Components, etc. from Dirt and Mishandling
Available from Stock

Special Closures Manufactured to Customers' Specifications, of Aluminum or Polyethylene. Quotations on request, furnish description desired including thread size.

Manufacturers of Industrial Closures Since 1944

CLOVER INDUSTRIES, INC. 601 Young Street Tonawanda, N.Y.

For more details circle NED-339 L1 on enclosed inquiry slip

FOR EVERY TEMPERATURE CHECKING NEED

PANDUX® THERMOMETERS

PATENTED

precision instruments for **INDUSTRY AND LABORATORY**

Write for **free** *temperature conversion chart... C to F and F to C 0°K. to 5612°F.*

Only **$6.75**

APPROX ACTUAL SIZE

PANDUX® Hi-Heat Surface Thermometer
50°F. to 750°F.

Fast, accurate temperature check from 50°F. to 750°F. for surfaces, flat or rounded. For hot plates, platens, die casting dies, rubber and plastic molds, ovens, furnaces—also industrial uses such as heat treating and foundry work. Accuracy ±2% over entire range, stabilizes in 3 minutes. Two Alnico magnets affix thermometer to surface. Diameter 2", wt. 1¼ oz. Fully guaranteed.

The Pandux line includes industrial and scientific thermometers for indicating, recording and testing — dial, mechanical, glass, mercury types — for atmospheres, surfaces, liquids, semi-liquids, powdered and granular materials.

If your dealer does not have Pandux thermometers, write the factory for complete catalog: Dept. ND-111

PACIFIC TRANSDUCER CORP. GRanite 8-1134 11836 W. Pico Blvd. Los Angeles 64 Calif.

DEALER INQUIRIES INVITED ...SOME TERRITORIES STILL OPEN

For more details circle **NED-340 L1** on enclosed inquiry slip

... Fluid Power **news**

OILGEAR Variable Displacement Electrohydraulic Controlled Pumps and Control Components

Complete data and diagrams on . . .

- How Pumps and "V" Controls work.
- 3 Variable Displacement Pump lines with Electrohydraulic Controls.
- Transistor Power Amplifiers and Pre-Amps.
- Pre-Set, and Manual Control Units.
- Variable, and Reference Transformers.
- Automatic Slip Compensator.
- Servo-Adjustable Relief Valves.
- Control Panels and Consoles.
- *Application-Engineered* Linear and Rotary *"Any-Speed"* Drive and Control Systems.
- Typical open and closed-loop *Fluid Power* Control Circuitry.

• *Request New Bulletin 47740* •

THE OILGEAR COMPANY
Application Engineered "Any-Speed" Drive Systems
1582 WEST PIERCE STREET • MILWAUKEE 4, WISCONSIN

For more details circle **NED-341 L1** on enclosed inquiry slip

GOODYEAR

Steel-armored against punctures!

For the tough jobs use STEEL GUARD—rugged new pneumatic tire with built-in puncture-barrier. Here's why:

1. Heavy steel cables crisscrossed beneath tread make tire virtually punctureproof.
2. Thick, sturdy tread absorbs punishing blows, insures better traction.
3. Pneumatic design means smooth ride for cargo and driver—plus stand-out stability and flotation.

Ask your Goodyear dealer about STEEL GUARD—it stands up even in foundry and brickyard service! Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

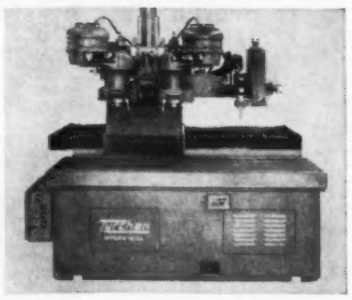
Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle **NED-342 L1** on enclosed inquiry slip

AUTOMATIC TRACER MILL
both spindles trace in 3 dimensions



This two-spindle Hydro-Mill automatic tracer mill is capable of three-dimensional tracing on both spindles. Each spindle is powered by its own 5-hp motor at speeds from 150 to 11,750 rpm. Speed range allows machining of tough metals, fast machining of nonferrous metals, and grinding where desired. Turchan tracer control for profiling and contouring controls hydraulic actuators on the vertical slide, saddle, and ram. Feed rates on all dimensions are 0 to 40 ipm. Mill has a 20¾ x 78¼-in. stationary work table to accommodate parts and models measuring up to 36 x 13 x 12 in. Center distance between spindles is 18 in. • **Turchan Follower Machine Co.**, Box 157, Inkster, Mich.

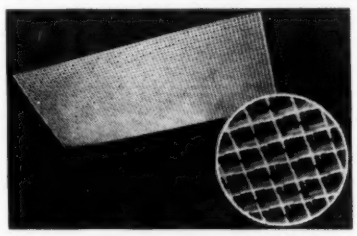
For more details circle **NED-343 L1** on enclosed inquiry slip

CAPACITOR MOTOR
has high overload capacity

Type JPH Power Twin-Universal capacitor motor has a designed inrush current which at 20-hp rating is equivalent to a 10 hp repulsion-induction motor. Other ratings up to 60 hp have comparable characteristics. This motor operates with a leading power factor and has a high overload capacity. Type JPH, as well as other models, is available in dripproof, totally enclosed, vertical hollow shaft, and solid shaft types with speeds of 3600, 1800, 1200, and 900 rpm. • **System Analyzer Corp.**, Nokomis, Ill.

For more details circle **NED-344 L1** on enclosed inquiry slip

LIGHT DIFFUSING PANELS
form fire-safe luminous ceiling



Irregular-surface design lends a distinctive color-texture pattern to Texture-Luminus, a nonburning vinyl panel with cube-cell structure used to diffuse light in ceiling lighting systems. Panels have nonburning chemical properties and can thus be used under sprinkler systems. Pattern can be perforated or nonperforated. Panels are offered in 2 x 2 and 2 x 4-ft sizes, in white, or a range of pastel colors. Color is in the center membrane of the panel only. To accentuate the texture, black can be applied to the irregular surface area. • **Luminous Ceilings Inc.**, 3701 N. Ravenswood Ave., Chicago 13, Ill.

For more details circle **NED-345 L1** on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from **GOODYEAR**

More tons are hauled on Goodyear truck tires than on any other kind

Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle **NED-346 L1** on enclosed inquiry slip

NEW PACK-AGING SYSTEM

MA SYSTEM FOR AUTOMATED POLYETHYLENE PACKAGING

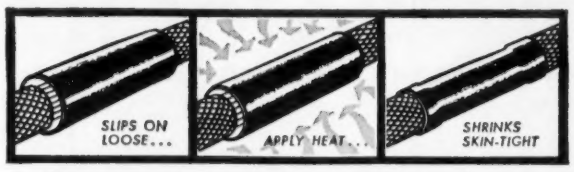
Send for tell-all folder on the new MA System that packages all kinds of products in polyethylene in just one operation. Shows how you can save up to 50% in materials and labor costs by producing your own packages from polyethylene roll stock.

FREE SAMPLE PACKAGING—You can have your product test-packaged by the MA System. Indicate loose or shrink-fit polyethylene package and send your product to: Mehl Manufacturing Company, 2057 Reading Road, Cincinnati 2, Ohio.

ma SYSTEM

For more details circle **NED-347 L1** on enclosed inquiry slip

NEW INSULATION DISCOVERY SHRINKS WITH HEAT!



Cover... protect... insulate in minutes with

SCOTCHTITE BRAND
HEAT REACTIVE TUBING

Now you can add a tough, smooth, seamless vinyl coat to wires, rods, tubes, even odd shapes with "SCOTCHTITE" Heat Reactive Tubing. Just slip "SCOTCHTITE" Tubing over object to be covered—apply heat—and almost immediately the tubing contracts to form a skin-tight insulating cover. Harness cables, ground straps, bus bars, high voltage leads, and tool handles are just a few of the many possible applications. Available in sizes ranging from 3/64 up to 5¼ inch diameter.

What can you do with "SCOTCHTITE"? Send for free sample and complete information. Write Irvington Division, 3M Company, 900 Bush Avenue, St. Paul 6, Minnesota, Dept. EBM-111

"SCOTCHTITE" IS A REGISTERED TRADEMARK OF 3M CO., ST. PAUL 6, MINN. EXPORT: 99 PARK AVE., NEW YORK 16. CANADA: LONDON, ONTARIO.

MINNESOTA MINING AND MANUFACTURING COMPANY
...WHERE RESEARCH IS THE KEY TO TOMORROW

3M COMPANY

For more details circle **NED-348 L1** on enclosed inquiry slip

GOODYEAR

NEW Deep-Tread Pneumatic!

New Cross-Rib Pneumatic Industrial Tires bring you a new premium in performance. You get:

1. The same extra-deep tread design used on Hi-Miler Cross-Ribs—famed for extra mileage and superior traction in highway hauling service.
2. Scientifically toughened tire rubbers—unsurpassed for resistance to cutting—gouging—hard wear.
3. Exclusive 3-T Processed Cord body—triple-tempered for triple-toughness at a precise Tension and Temperature for an exact Time.

Top traction, extra long life—both are yours in the great new Cross-Rib Pneumatic Industrial Tire. Now available in 6.50 x 10 and 7.00 x 12 sizes. See your Goodyear Dealer. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from **GOODYEAR**

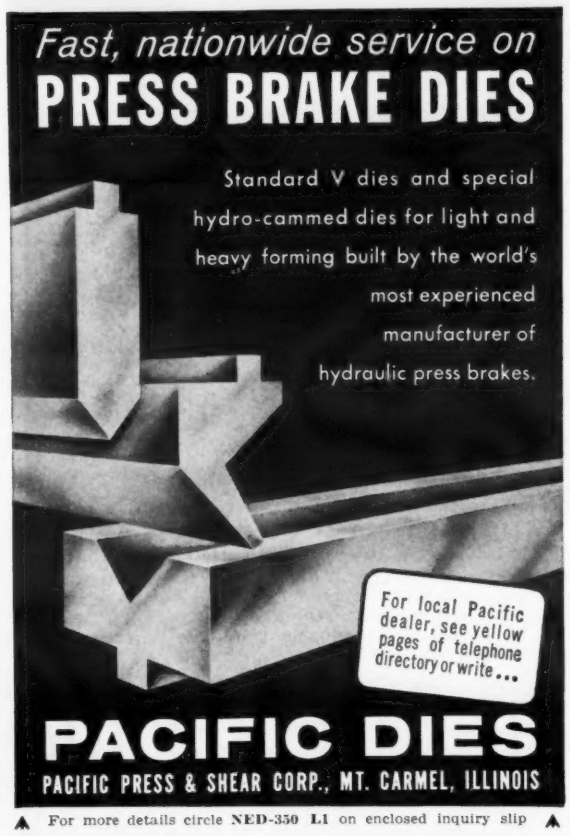
More tons are hauled on Goodyear Truck Tires than on any other kind

Hi-Miler—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle **NED-349 L1** on enclosed inquiry slip

Fast, nationwide service on
PRESS BRAKE DIES

Standard V dies and special hydro-cammed dies for light and heavy forming built by the world's most experienced manufacturer of hydraulic press brakes.



For local Pacific dealer, see yellow pages of telephone directory or write...

PACIFIC DIES
PACIFIC PRESS & SHEAR CORP., MT. CARMEL, ILLINOIS

For more details circle NED-350 L1 on enclosed inquiry slip

New Sealed Aluminum Hoist Line means easy lifting in any weather!

Efficient hoist performance is assured by sealing out moisture, oils, chemicals and dirt from the brake mechanism. Five seals provide permanent protection under exposure conditions.

Lifting is easy with the Coffing Sealed Disk Brake Lever Hoist because the handle pull to lift rated load requires only 57 pounds with the ¾-ton model to 93 pounds with the 6-ton model. Load spotting is precise—to within minute fractions of an inch. Sealed brake will not slip. Six models—¾ to 6-tons.

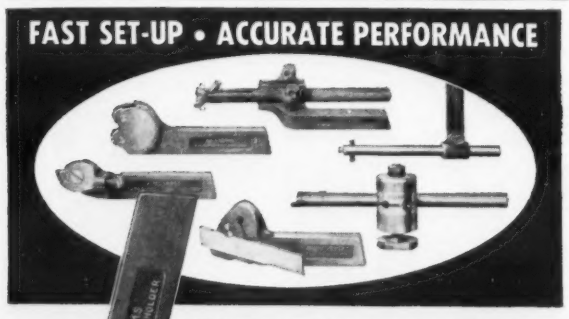
The high strength aluminum alloy frame is light—makes for easy portability. Ask your distributor or write for Bulletin ADH-78N.

MA-15 ¾-ton

COFFING HOISTS
DUFF-NORTON COMPANY
Four Gateway Center • Pittsburgh 22, Pa.

For more details circle NED-351 L1 on enclosed inquiry slip

FAST SET-UP • ACCURATE PERFORMANCE



WILLIAMS
DROP-FORGED
TOOL HOLDERS

Standardize on Williams Tool Holders . . . available in a complete range of sizes and patterns for turning, boring, threading, knurling, planing, cutting-off and side work. Correctly designed for fast, easy set-up and rigid, chatter-proof cutting. Drop-forged from tough quality steel . . . heat-treated for added strength . . . machined to close tolerances. Your Williams Distributor can also supply a full line of high speed cobalt and carbide cutters.

FOR ALL REGULAR LATHE AND PLANER OPERATIONS

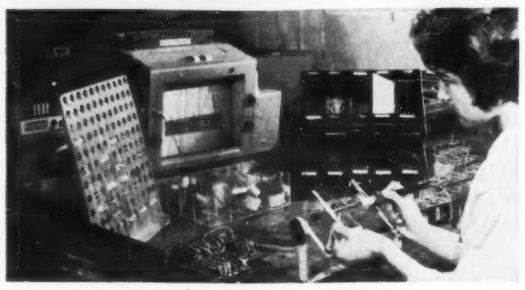
J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-352 L1 on enclosed inquiry slip

ASSEMBLY GUIDE SYSTEM uses synchronized sound and slides to present step-by-step instructions

Complex assembly or other operations can be efficiently performed with an assist from the Audio Graphic System which provides a synchronized sound and slide



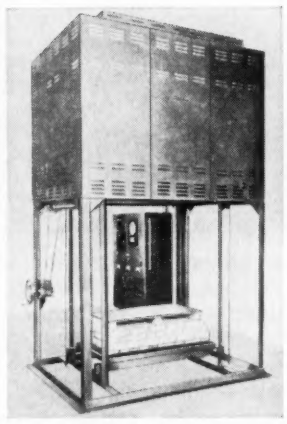
presentation to show how the job must be done. Worker follows the audio visual instruction step by step.

Companies can prepare their own programs, using 35-mm slides, with recording done on the basic unit, a 17 x 15 x 13-in. playback or Instructor. This unit contains a 35-mm rear projection 8 x 10-in. screen, amplifier, tape deck, speaker, earphones, volume control, and operator-controlled foot switches. A slave projector may be connected for big screen showings before groups. Once slides are made and organized, prepared commentary is read onto magnetic tape while slides are observed in continuous, demand, or timed operation. Electronic pulses are recorded on the tape to change the slides.

Applications include training of new personnel; instruction in short cycle assemblies; teaching of equipment repair and adjustment; machine set-up; wiring and soldering techniques; and safety and methods training. • **Graflex, Inc.**, Dept. 114, 3750 Monroe Ave., Rochester 3, N. Y.

For more details circle NED-353 L1 on enclosed inquiry slip

ELECTRIC FURNACES elevating types heat to 3000° F

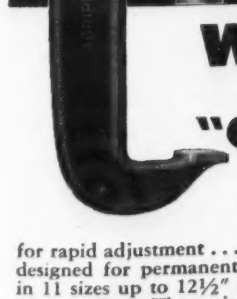


Hearth of Kanthal-Super electric furnaces is raised above the floor (see photo) to expose the complete load to radiation and to facilitate heat transfer. The elevating type units fire in oxidizing or nitrogen atmospheres in a 2600 to 3000° F range, and up to 2730° F in atmospheres containing CO or H_2. Four chamber sizes measure 12 x 12 x 22 in., 20 x 24 x 36 in., 30 x 30 x 60 in., and 36 x 30 x 84 in.

• **Harrop Precision Furnace Co.**, 3470 E. Fifth Ave., Columbus 19, Ohio.

For more details circle NED-354 L1 on enclosed inquiry slip

LONG-LASTING • SPRING RESISTANT



WILLIAMS
DROP-FORGED
"C" CLAMPS

Made from tough, carefully selected steel, specially heat-treated to increase strength and reduce liability of springing. Screws threaded for rapid adjustment . . . thru-hardened for extra life. Swivels designed for permanent retention on screws. Heavy Service in 11 sizes up to 12½" cap. General Service in 9 sizes up to 18" cap. Deep Throat in 7 sizes up to 12" cap. Spatter-Resisting in 7 sizes up to 12" cap. Tool-Makers in 4 sizes up to 4½" cap. Also Machinists' Clamps, 4 sizes up to 4½" cap.

FIVE STYLES IN 38 SIZES
SEE YOUR WILLIAMS DISTRIBUTOR

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-355 L1 on enclosed inquiry slip

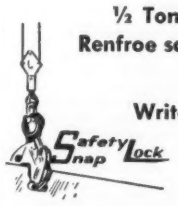
THE RENFROE PRECISION-BUILT
BULLDOG
STEEL LIFTING CLAMP

½ Ton to 7 Ton

- Efficient — Rugged
- Light in Weight
- Larger Jaw Opening
- Compact in Size
- 5 to 1 Safety Factor

½ Ton to 20 Ton
Renfroe safety snap lock clamps
Safest steel lifting clamp available

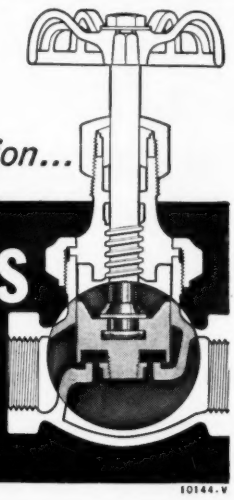
Write for full line catalogue



J. C. RENFROE & SONS, INC.
1926 SPEARING STREET • JACKSONVILLE, FLORIDA

For more details circle NED-356 L1 on enclosed inquiry slip

Withstands severe stress of on-and-off operation...



O-B Valves with Free-swiveling Disc Holder

10144-V

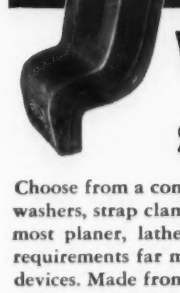
O-B BRONZE VALVES feature self-leveling, free-swiveling disc holders in globe and angle types (except needle valves) in sizes down to ⅛-inch. This O-B design keeps disc from grinding against seat—assures accurate alignment—withstands constant on-and-off operation—chops maintenance costs. Write for new catalog information.

OHIO BRASS COMPANY
Mansfield, Ohio

Ask your distributor for the valve in the orange-and-black box

For more details circle NED-357 L1 on enclosed inquiry slip

HOLD DOWN YOUR MACHINING COSTS



WILLIAMS
FORGED
SET-UP TOOLS

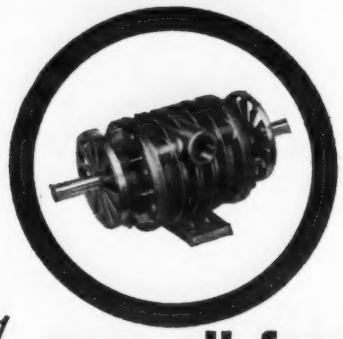
Choose from a complete line of T-Slot bolts and nuts, wedges, washers, strap clamps and lathe dogs. Sizes and styles to cover most planer, lathe, drill press, milling and boring machine requirements far more efficiently than any make-shift holding devices. Made from a strong, tough grade of carefully selected steel . . . heat-treated to increase strength and toughness. Ask your Williams Distributor to demonstrate their specific features and many applications.

OVER 180 ITEMS
FOR FASTER SET-UPS

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
422 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-358 L1 on enclosed inquiry slip



20% more oil-free air

The all-new M-D DRY AIR pumps deliver 20% more air flow than previous models. Seven models deliver guaranteed oil-free dry air in constant flow from 1 to 40 CFM and provide vacuums to 25" HG or pressures up to 35 PSIG.

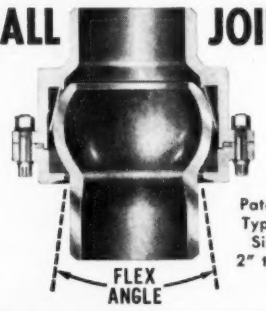
Aircraft quality tolerances
Factory tested • No oiling • No greasing
7 Gas-Tight Models Also Available

Write for free literature
M-D BLOWERS, Inc., RACINE, WIS.
A subsidiary of Miehle-Goss-Dexter, Inc.

For more details circle NED-359 L1 on enclosed inquiry slip

BARCO BALL JOINTS

High Temperature (from 500° to 1200°F)



NEW! A simple way to solve

PIPE EXPANSION PROBLEMS

Send for New Catalog No. 250

At risers . . . at offsets . . . in straight runs, install Barco Flexible Ball Joints to handle any amount of PIPE EXPANSION—also twisting, torsional movement. Here's why it PAYS:

Save Time—Expensive engineering and stress analysis not required.

Cut Costs—No "pressure end thrust" in Barco joints; heavy anchoring and pipe guides not needed for installation.

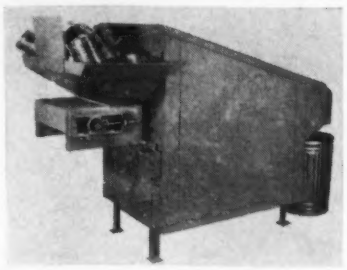
Safety—Joints are *self-aligning* for protection against costly "mis-alignment" damage. No thin wall sections; no lubrication needed.

Save Space—One foot of offset (between ball center points) provides for 3" expansion. *Find out about this method; send for literature.* BARCO MANUFACTURING CO., 530M Hough St., Barrington, Illinois.

BARCO

For more details circle NED-360 L1 on enclosed inquiry slip

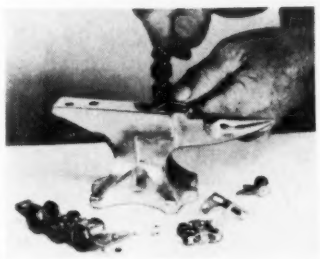
CAN & BOTTLE CRUSHER
saves plant space, disposal costs



Accumulations of empty cans, jars, jugs, and bottles rejected because of short measure, leaks, or damage can be crushed by the Rescor can and bottle crusher. Its use saves up to 80 per cent of the space required for storage, as well as minimizes the cost of disposal and haul-away. Machine operates from any electrical outlet and should be hosed once a day to clean off accumulations of residue from its interior. Various sizes are made. • **Rescor Industries,** 9 W. Prospect Ave., Mt. Vernon, N. Y.

For more details circle NED-362 L1 on enclosed inquiry slip

SMALL ANVIL
aids work involving small parts



Wide application in work involving small parts is expected for this miniature anvil which is made of a chrome-plated cast alloy to withstand heavy impacts. It is used in the production shops, electrical and electronic laboratories, and by the makers of optical goods and instruments. Anvil is priced at $5.95. • **Fisher & Norris,** 301 Monmouth St., Trenton, N. J.

For more details circle NED-363 L1 on enclosed inquiry slip

MACHINE EFFICIENCY RECORDER
desk-top unit monitors 40 machines

Operating remotely from production area, this desk-top size Bar Chart Recorder monitors up to 40 production or data processing machines, graphically recording each machine's productive and nonproductive effort. It also provides operator number and job and shift numbers corresponding to any manual effort on the part of the operator. Recorder samples and records every 20 sec, and is available with charting time of 9, 17, or 24 hr per chart. Basic units are a rotating drum, inkless chart with 40 vertical bars or channels, and a stylus. Recorder is connected to machine by telephone-type wires. • **Electronic Associates, Inc.,** Long Branch, N. J.

For more details circle NED-364 L1 on enclosed inquiry slip

CONTROL

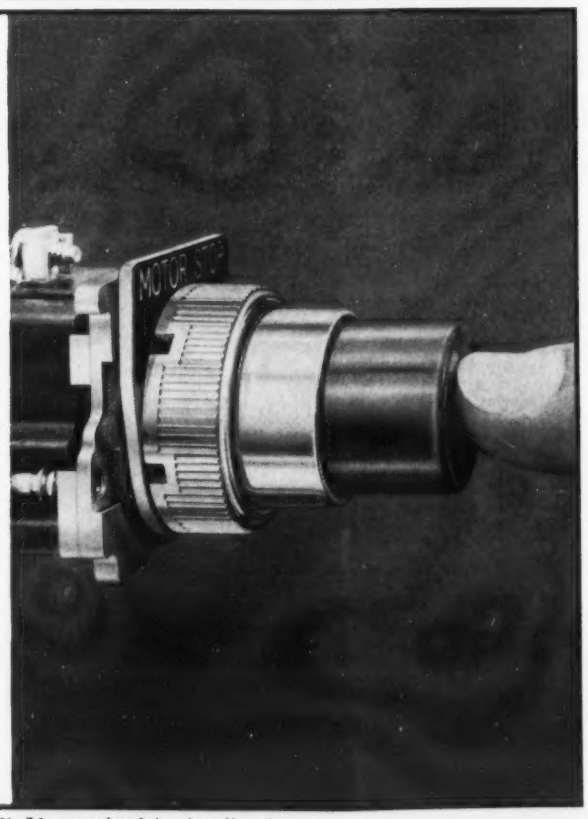
New! Versatile Cutler-Hammer oiltight pushbuttons let you make any station you want

The new interchangeability built into these operators lets you create the station you want from a complete selection of Cutler-Hammer pushbuttons. Get them in one hole or base mounting, 6 bright colors. Thirty different circuit arrangements can be made in hundreds of varieties of stations in standard arrangements of up to 25 elements. Get up to 8 circuits on one pushbutton. They take 40% less back-panel space than next smallest unit so you get more control in less space. Get facts in PUB. EL-178B-W251.

WHAT'S NEW? ASK...

CUTLER-HAMMER

Cutler-Hammer Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. • Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer Mexicana, S.A.



For more details circle NED-361 L1 on enclosed inquiry slip

Are you taking full advantage of BEAD CHAIN versatility

The Kinkless Chain of a Thousand Uses . . .
It Drives, It Pulls, It Fastens, It Swivels

In thousands of cost-saving applications . . . strong, flexible, non-kinking Bead Chain is helping to solve a wide variety of engineering problems. It is available in 5 diameters from 3/32" to 3/8" with tensile strengths ranging from 18 to 200 lbs., in a number of metals and finishes. Our engineers will gladly assist in working out your chain applications; just drop us a line on your letterhead, and be sure to ask for our free helpful catalog.

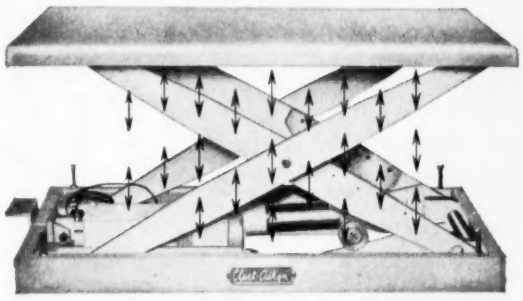
THE **BEAD CHAIN** MANUFACTURING COMPANY
16 Mountain Grove St., Bridgeport, Conn.

For more details circle NED-365 L1 on enclosed inquiry slip

Clark-Aiken

LIFT TABLES

UP TO 6000 LB. CAPACITY
FOR INTEGRATED SYSTEMS OR PORTABLE USE



PUT THEM TO WORK — TO POSITION YOUR WORK

Fast and sure control for any positioning within a 48" height from floor level on standard tables—with electronic accessories for automatic positioning or hand or foot manual control. Clark-Aiken electric hydraulic Lift Tables provide the easy answer to a wide range of lift or work positioning problems. Now in use for all kinds of jobs in all kinds of plants.

SO MANY USES — SO ADAPTABLE

Note the special double scissors unit illustrated—functions as an elevator and for adjusting large machinery or making set-ups, repairs, painting, etc., raises loads above 48" and up to 72".

Lift tables can be wheel-mounted for portable use, too. For fixed operations they can be flush-floor mounted—a special toe guard provides safety. Special cradle tops can be furnished for cylindrical objects and other curved-surface materials.

SEND FOR INFORMATIVE BULLETIN
Complete descriptive literature on the standard line of Clark-Aiken Lift Tables is yours for the asking—write, wire or phone today for prompt response.

THE *Clark-Aiken* COMPANY
LEE, MASSACHUSETTS

Canadian Representative: GORDON W. KEATES
133 Flora Drive, Scarborough, Ontario

For more details circle NED-366 L1 on enclosed inquiry slip

MODERNIZE PARTS STORAGE . . . MORE ACCESSIBLE TO ASSEMBLY!

Low-Cost Flexible Stackbin System Saves Space, Time and Labor

Stackbin®-Stackrack® Combinations are the ideal way to minimize parts, tools, materials handling. Stackbins are portable containers, so you can carry materials throughout your process without transferring contents to any other container. Stored in Stackracks, every Stackbin is instantly accessible when it's needed. You never disturb another bin. Hopper fronts on Stackbins provide visibility and accessibility to the materials. Available in 7 sizes, Stackbin-Stackrack Combinations make most efficient use of floor space. With inexpensive Adapters any small units can be stacked on larger units. Related items can be kept in one place. Individual units lock together: no tools, no setup time needed.

WRITE FOR NEW CATALOG

All Stackbin Products Sold Direct

STACKBIN CORPORATION

1081 Main St., Pawtucket, R. I.

Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Perth

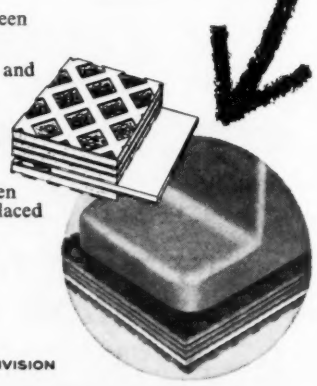
STACKBIN SYSTEM "Stacked and Still Accessible"

For more details circle NED-367 L1 on enclosed inquiry slip

AIR-LOC MACHINE MOUNTING PADS

. . . positive vibration control at lowest cost

- Easily installed without cement or bolts
- For leveling, shim between top and bottom pads
- Vinyl impregnated cork and sisal resists oils, alkalies and acids
- Machines held firmly in place — no "walking"
- Air-Loc is re-usable when machine is moved or replaced



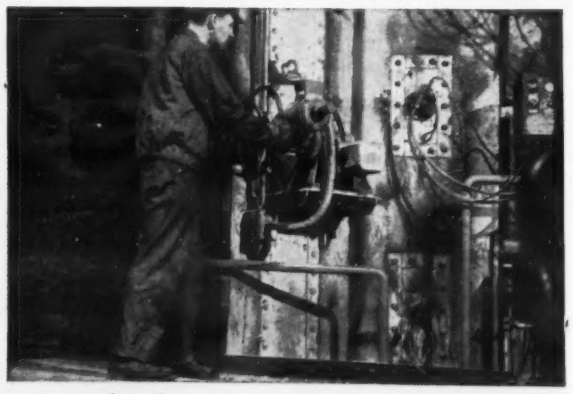
Write for full information and sample.

Air-Loc DIVISION

Clark, Cutler, McDermott Company

5 WEST CENTRAL ST. • FRANKLIN, MASS.

For more details circle NED-368 L1 on enclosed inquiry slip



Sure footing . . .

A.W. ALGRIP abrasive flooring

Heavy oil occasionally spills on this platform at the Schuylkill Station of the Philadelphia Electric Company, but A. W. ALGRIP helps prevent accidents by providing assured footing.

A. W. ALGRIP is produced by Alan Wood Steel Company by a patented process in which an abrasive is embedded to a controlled depth. It becomes an integral part of a tough steel plate.

A. W. ALGRIP can be used as independent flooring or as flooring overlay. Approved for Safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY

Conshohocken, Pa.

Also manufacturer of A. W. Super Diamond Rolled Steel Floor Plate.

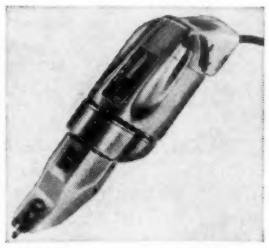
For more details circle NED-369 L1 on enclosed inquiry slip

MELTING TANKS for protective tool coating

Portable melting and dipping tanks in 1-pt, 1 and 2-qt, and 1-gal capacities facilitate bench coating of carbide tipped tools, cutting edges, dies, taps, drills, and small parts with plastic and other protective coatings. Units have an insulated, steel jacketed tank, cast aluminum melting pot, pilot light, and thermostatic controls. Gate or needle valves for dispensing uniform quantities of material, 12-in. legs, or special stand are available. • **Aeroil Products Co.**, 69 Wesley St., South Hackensack, N. J.

For more details circle NED-370 L1 on enclosed inquiry slip

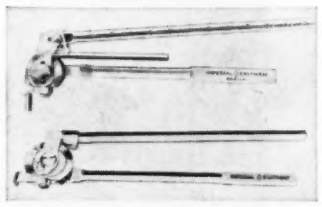
PORTABLE ELECTRIC SHEAR cuts metals and plastics



Sheet metal, coils, plastics, glass fiber materials, Formica, aluminum, brass, and copper are speedily cut by the Burke-Docken portable electric shear. The 4½-lb, 110-v tool is operated by trigger action. Tool steel side and cutting blades are housed in a cast aluminum shear head. Electric model sells for $69.50. Air-driven models are also available. • **W.P.B. Industrial Products, Inc.**, 8244 Christiana Ave., Skokie, Ill.

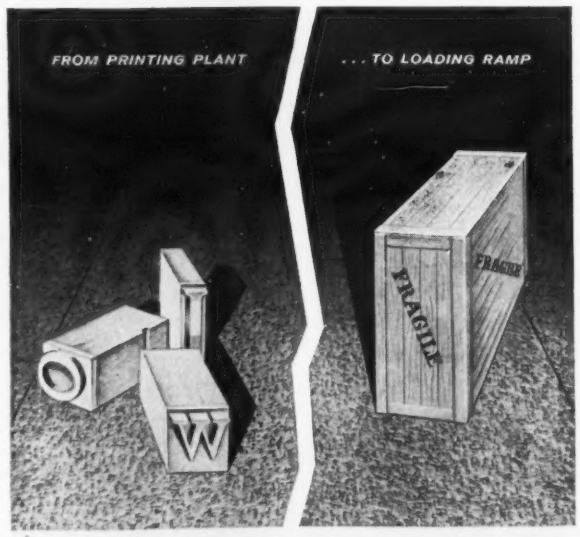
For more details circle NED-371 L1 on enclosed inquiry slip

TUBE BENDERS make bends up to 270 degrees



Smooth bends in either hard or soft tubing are made with two Imperial tube benders. Three-position Model 364-FH has three starting positions for bends up to 90, 180, or 270 degrees. It is suited for use in close quarters or where tubing is partly connected. Calibrated for bend angles, it is available for ⅜, 7/16, and ½-in. OD tubing. Difficult bending jobs are performed by the double-action Model 464-FH bender by repositioning the pivoted handle at the starting point when the 90-degree position is reached. Bends up to 90 degrees are made in the normal manner. Distance from end to center of bend is fixed without calculation by using the Measure-Matic scale on the handle. It accommodates ⅜-in. OD tubing. • **Imperial-Eastman Corp.**, 6300 W. Howard St., Chicago 48, Ill.

For more details circle NED-372 L1 on enclosed inquiry slip



There's never a slip on A. W. ALGRIP (the only ABRASIVE rolled steel floor plate)

Step up your plant safety with Algrip—the world's only abrasive rolled steel floor plate. It provides safer footing where splashing water, grease, oil, ink mist or other slippery substances might otherwise pose serious plant hazards.

Fabrication is simple. Write today for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY

Conshohocken, Pa.

For more details circle NED-373 L1 on enclosed inquiry slip

THE KEY TO COMFORT... RADIANT ENVIRONMENT

Electric Infrared radiant heating provides comfortable environment for areas with large air movements, for occasional heating of areas, for localized and supplementary heating . . . at lower equipment installation, maintenance and operating cost.

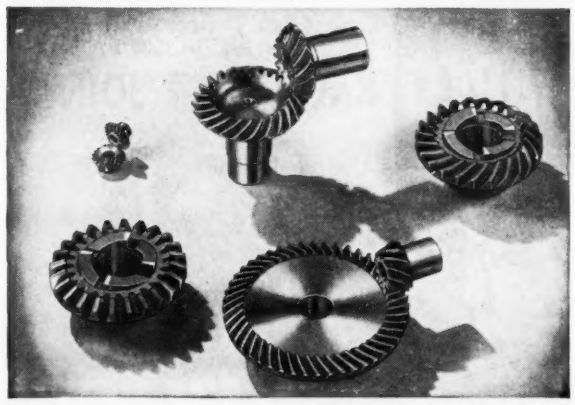
Infrared radiant heating is instantaneous, silent, clean, healthy and safe. There are no fumes, dirt or odors. Send for detailed literature describing the advantages of Fostoria Infrared Radiant Heating Equipment.

FOSTORIA

FOSTORIA CORPORATION • FOSTORIA, OHIO

MANUFACTURERS OF ENGINEERED RADIANT ENERGY EQUIPMENT AND CRITICAL WORK AREA LIGHTING

For more details circle NED-374 L1 on enclosed inquiry slip



Famous G. S. Precision Guards Your Production

Whether you need hundreds or thousands, G.S. gives you a degree of UNIFORM accuracy *unapproached by any other Small Gear maker in the world!* That assures smooth, dependable performance and low assembly costs.

G.S. Small Gearing is mass-produced in a range of sizes from 8 to 96 dp . . . from ⅛" to 8" diameters, and from any Gear material. Capable G.S. engineers will gladly help you develop the ONE best and most economical design for your specific needs. Send drawings and specifications or a complete description.

SEND FOR FREE Illustrated Small Gearing Guide

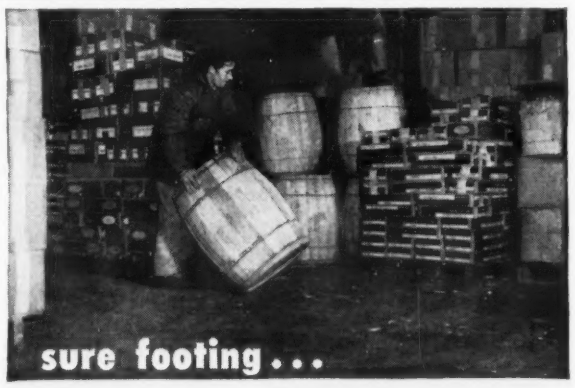
GEAR Specialties, Inc.

Spurs • Spirals • Helicals • Bevels • Internals • Worm Gearing

2635 WEST MEDILL AVENUE, CHICAGO 47, ILLINOIS

WORLD'S LARGEST EXCLUSIVE MANUFACTURERS OF FRACTIONAL HORSEPOWER GEARS

For more details circle NED-375 L1 on enclosed inquiry slip



A. W. ALGRIP abrasive flooring

Bits of food fall on the floor of this food processor's freezer, but A. W. ALGRIP eliminates slipping and sliding . . . helps prevent accidents.

A. W. ALGRIP is produced by Alan Wood Steel Company under a patented process by which an abrasive is embedded to a controlled depth. It becomes an integral part of a tough steel plate.

A. W. ALGRIP can be used as independent flooring or as flooring overlay. Approved for Safety by Underwriters' Laboratories. Write for Bulletin AL-S2.

ALAN WOOD STEEL COMPANY

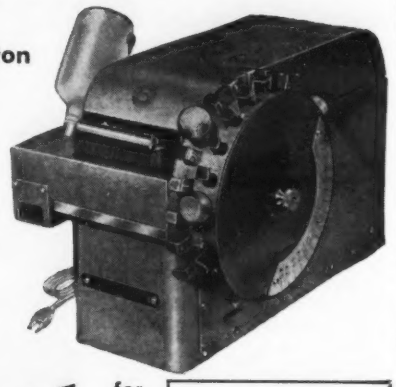
Conshohocken, Pa.

Also manufacturer of A. W. Super Diamond Rolled Steel Floor Plate.

For more details circle NED-376 L1 on enclosed inquiry slip

FREE TRIAL in your plant

THE IDEAL 200-E ELECTRIC CLIP-A-TAPE



- Push a button get the exact tape length desired!
- Save 20% to 40% in time and tape!

IDEAL for free trial

SEE THE YELLOW PAGES FOR NAME OF NEAREST DEALER OR WRITE DIRECT TO FACTORY

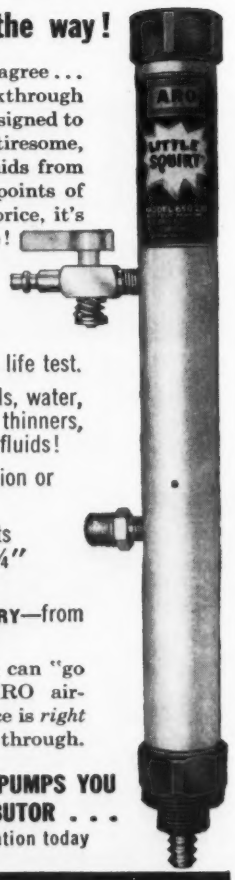
STENCIL MACHINE CO.
134 IDEAL BLOCK, BELLEVILLE, ILLINOIS

For more details circle NED-377 L1 on enclosed inquiry slip

NOW an AIR-POWERED PUMP ... at a Hand Pump Price!

ARO "Little Squirt"

... and ARO quality all the way!



Once you see it pumping, you'll agree ... the ARO *Little Squirt* is a breakthrough in liquid materials handling! Designed to eliminate forever time-wasting, tiresome, inefficient hand pumping of fluids from drums to other containers or points of use. And, while it's "little" in price, it's *big* in features and performance!

- HIGH VOLUME—up to 7 gals. min. free flow. Handles fluids up to 90 weight gear oil easily.
- DEPENDABLE—6 million cycles in life test.
- VERSATILE—handles oils, gear oils, water, kerosene, gasoline, anti-freeze, thinners, solvents and other non-corrosive fluids!
- SAFE — air-operated; no explosion or spark hazards!
- UNIVERSAL BUNG MOUNT — fits either standard ¾" bung inlet, 1¼" inlet, and with adaptor, 2" inlet.
- INFINITELY ADJUSTABLE DELIVERY—from zero to full flow!

Why pump by hand when you can "go automatic" with the new ARO air-powered Little Squirt? The price is *right* and the quality is ARO clear through.

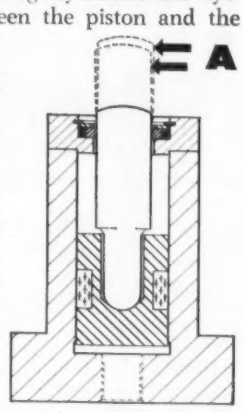
GET THE ARO "LITTLE SQUIRT" PUMPS YOU NEED FROM YOUR ARO DISTRIBUTOR . . .
or write to us for complete information today

ARO THE ARO EQUIPMENT CORPORATION
Industrial Division • Bryan, Ohio

Aro Equipment of California, 3141 S. Grand Ave., Los Angeles 7; Aro of Canada, Ltd., Rexdale (Toronto) Ontario. Offices in Principal Cities

For more details circle NED-378 L1 on enclosed inquiry slip

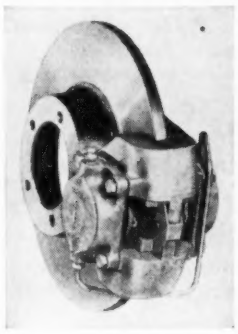
HYDRAULIC DIE CYLINDER
long-life self-aligning type



Long service life, without leakage and scoring, is a feature of this Hyson self-aligning hydraulic die cylinder. Ball joint contact between the piston and the piston rod eliminates any slight angular misalignment (at A in drawing). The "floating" guide ring serves only to hold the piston rod centered during installation. Once in contact in the die, the ring functions only as a wiper to keep dirt particles out of the cylinder chamber. Provision for lubrication is also incorporated in the unit. • **Precision Products, Inc.**, 8811 Maywood Ave., Cleveland 2, Ohio.

For more details circle NED-379 L1 on enclosed inquiry slip

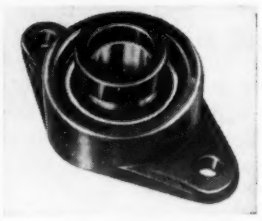
DISC CLUTCH & BRAKE
in 9700 to 54,300 lb-in. torques



Opposing friction shoes assure equally applied pressure on the disc of this Fawick/Dunlop caliper disc clutch and brake. Both the caliper and the disc can be fixed and the need for floating either component is eliminated. Unit is suitable for heavy-duty applications in earthmoving, material handling, metalworking, and braking and tensioning machinery. A retractor pin assembly provides automatic self-adjustment of shoe-to-disc clearance. Lining replacement is fast and simple. Either air or hydraulically actuated, single-caliper models have torque ratings from 9700 to 54,300 lb-in. at 1000 psi. • **Fawick Corp.**, Fawick Airflex Div., 9919 Clinton Rd., Cleveland 11, Ohio.

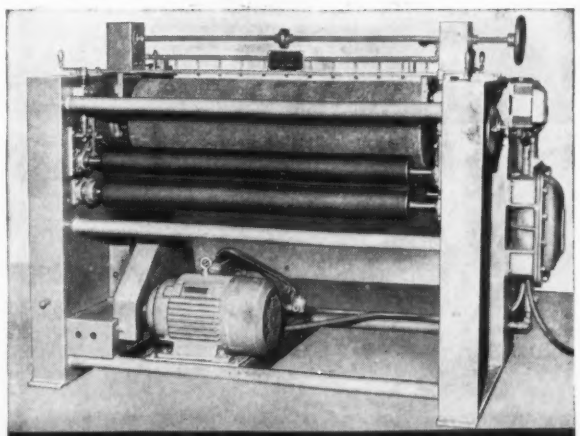
For more details circle NED-380 L1 on enclosed inquiry slip

FLANGE BEARING
½ to 1-7/16-in. sealed units



Latest addition to line of Life-Lube ball bearings is this permanently sealed unit in a flange housing with two drilled holes. Bearing is available for ½ to 1 7/16 in. shafts and is interchangeable with most other bearing units. Spherical bore permits self-alignment. Unit is locked to the shaft by a self-locking eccentric collar, and a rubber-shielded seal prevents entry of foreign particles. • **T. B. Wood's Sons Co.**, Fifth Avenue, Chambersburg, Pa.

For more details circle NED-381 L1 on enclosed inquiry slip



New UNI-FINISHER easily solves many metal polishing problems

The Uni-Finisher is a ruggedly constructed, precision controlled machine employing the recently developed impregnated nylon abrasive roll, or wheel, destined to play an important part in metal polishing and finishing operations everywhere. Roll types and sizes available, and oscillation variable to meet many needs. Handles sheets 6" to 74" wide at speeds up to 60 lineal ft./min. Write us today . . . perhaps a Uni-Finisher can solve your problem.

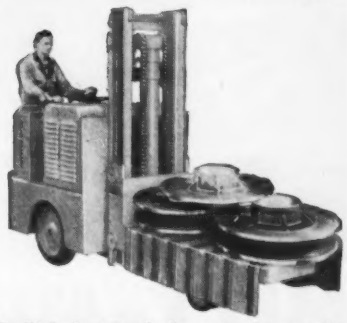
927 North Detroit Street

THE UNION TOOL CORPORATION
WARSAW, INDIANA

For more details circle NED-382 L1 on enclosed inquiry slip

BAKER Platform Trucks

Capacities 6,000 lbs. and up



Write for BAKER general bulletin 61

BAKER low-lift and Hy-lift® electric platform trucks are the most modern and efficient of their kind. They offer such features as 5-speed double drum controller, single reduction worm-drive, full compensating rubber mounted trail axle and non-plugging electric braking. *Call your BAKER Industrial Trucks Representative for information on "a complete line for every handling need."*

B4-61

OTIS ELEVATOR COMPANY
Baker Industrial Trucks Division
8045 BAKER AVENUE CLEVELAND 2 OHIO

For more details circle NED-383 L1 on enclosed inquiry slip

BAKER Stand-up Type

Capacities range through 15,000 lbs.

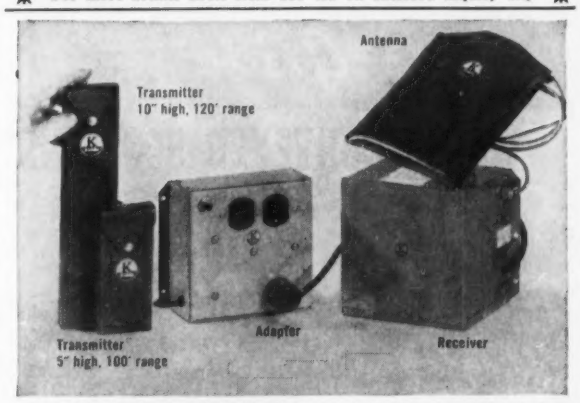
Write for BAKER general bulletin 61

Dependable handling of heavy, bulky loads. Power steering permits sharp turning—eases operator fatigue. Designed for extremely simple maintenance. Hydraulic wheel brakes. Independent treadle-controlled parking brake is interlocked with travel circuit for dead-man control. *Call your BAKER Industrial Trucks Representative for information on "a complete line for every handling need".*

B5-61

OTIS ELEVATOR COMPANY
Baker Industrial Trucks Division
8045 BAKER AVENUE CLEVELAND 2 OHIO

For more details circle NED-384 L1 on enclosed inquiry slip



Approved by the Burglary Protection Department of Underwriters' Laboratories

New portable alarm in a pocket-sized package!

Sounds alarms • Turns on lights • Closes doors • Reports hold-ups

Port-O-Larm uses a miniature, pocket-size radio transmitter to signal a fixed receiving unit whenever trouble strikes.

Ideal for use by bank tellers, sales personnel, plant guards or watchmen, the Kidde Port-O-Larm sends a pulsating radio signal to the receiver when the transmitter button is pressed. This causes an alarm to sound either locally, remotely, or at a central alarm station. For full information write Kidde today.

Kidde

Kidde Ultrasonic & Detection Alarms Division
1124 Brighton Road, Clifton, N. J.
Walter Kidde & Company, Inc.

For more details circle NED-385 L1 on enclosed inquiry slip

MITY-MIDGET

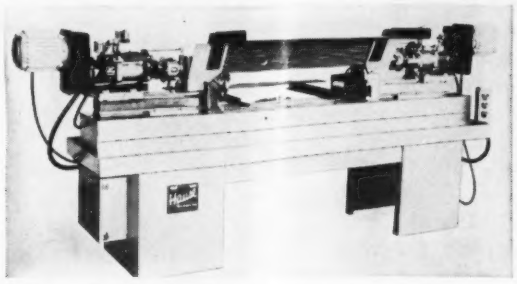
Cut sanding costs as much as 75% (over hand sanding), with National's Mity-Midget . . . the original orbital action sander. Weighs only 4 lbs . . . yet has 25 sq. in. of abrasive area. Powerful . . . vibrationless. Write for complete catalog, today.

Write for complete catalog
NATIONAL-DETROIT, INC.
ROCKFORD, ILLINOIS

For more details circle NED-387 L1 on enclosed inquiry slip

THREAD ROLLING MACHINE
rolls threads on both ends of rods

Threads in sizes from 6-40 to 7/8-9 and up to 4 in. long can be rolled on rods from 5 to 76 in. in length by the Size A Holomatic double-end threading rolling

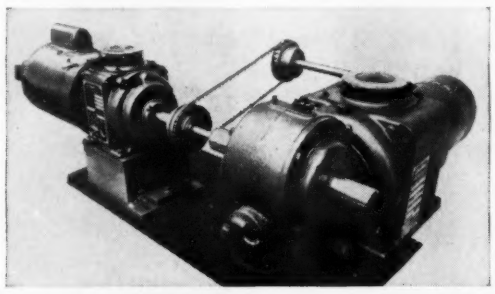


machine. Steel, aluminum, and brass rods are automatically threaded at up to 3000 parts per hour. Air-powered, hydraulically-fed Holomatic units with electric motor-driven spindles drive the self-opening, end-feed type thread rolling heads. Operator is required only to place rods in the magazine storage arms. Machine is quickly set up, and fixture jaws are easily interchanged for various parts diameters. Single cycle or automatic operation is possible. • **Hause Machines, Inc.**, 809 S. Pleasant St., Montpelier, Ohio.

For more details circle NED-390 L1 on enclosed inquiry slip

SPEED CONTROL SYSTEM
close regulating, closed loop type holds set speed under varying loads

Exact speeds are held under widely varying load conditions by this mechanical, infinitely variable, closed loop speed control system. A midget infinitely vari-

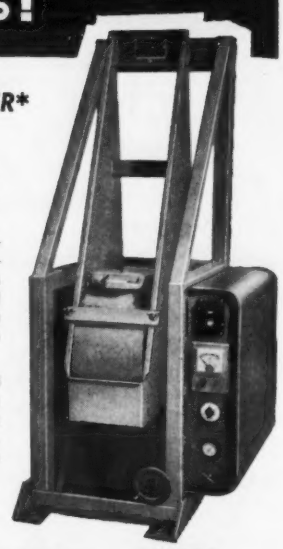


able speed transmission directly drives a differential and provides the speed reference. A second "driver" transmission carries the load and provides the second input to the differential. When driver and reference speeds match, there is no differential output; when they do not match, the differential output adjusts the speed setting of the driver transmission until it matches the reference speed.

Mock-up shown has an inexpensive differential gear unit directly coupled to the reference drive output shaft and, in turn, directly coupled to one of two driver shafts. Variety of mechanical, pneumatic, and electric controls may be used for transmission programming. • **Graham Transmissions Inc.**, Menomonee Falls, Wis.

For more details circle NED-391 L1 on enclosed inquiry slip

Now You Can Cut Finishing Time 66%!



NEW Rampe VI-BRADER*
Controlled Orbital Finishing Machine*

An entirely new concept in barrel finishing is used in the amazing new VI-BRADER Model 10 machine. It cuts finishing as much as 66% or more! Tumbles workpieces in a unique-design circular orbit. Finishing time and costs go down . . . output goes way up.

VI-BRADER Model 10 has full 1.25 cu. ft. capacity using conventional tubs or Rampe Rollabrader barrels. Variable speed adjustable 950 to 1800 rpm. Other models available on order up to 4 cu. ft.

Write for details and catalog.

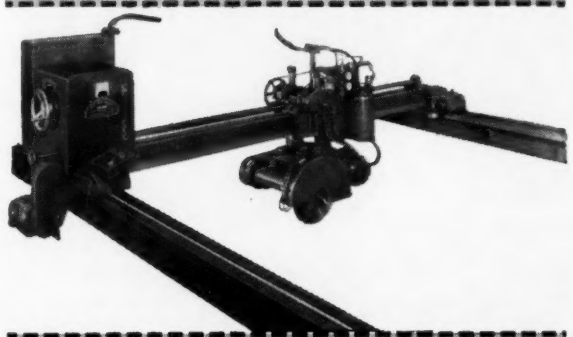
FIRST OF ITS KIND IN THE INDUSTRY . . . **$1085**

® Rampe Mfg. Co.

RAMPE MFG. CO.
14915 WOODWORTH AVE., CLEVELAND 10, OHIO

For more details circle NED-393 L1 on enclosed inquiry slip

ECONOMY SAW CUTS SHEET STOCK WITH 4-WAY ACTION



Accurate Squares up to 10 ft. Wide Any Length — Cuts Metal or Plastics

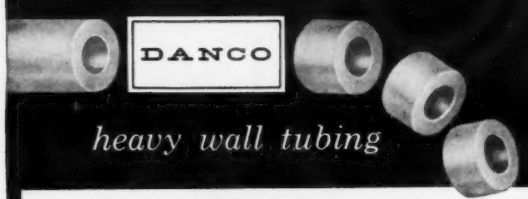
The new Ty-Sa-Man Economy "111-CX" produces accurate square rectangles up to any length, and up to 10 feet wide, from stock up to two inches thick. Motor and arbor travel on a transverse rail, which moves along two side rails. This four-way movement, in combination with the 90 degree swivel head, permits trimming all four sides of a plate without moving it. Handling time is reduced to a minimum.

Ty-Sa-Man SINCE 1885

Write for FREE BULLETIN
TY-SA-MAN Machine Co., Inc.
550 White Ave., Knoxville, Tenn.

For more details circle NED-394 L1 on enclosed inquiry slip

instant bearings from



heavy wall tubing

provide these added advantages: self-lubricating, tough, long-wearing. Practically frictionless, and non-corrosive, DANCO Heavy Wall Tubing is held to close tolerances. Rely on dependable DANCO for Nylon rod, strip, pressure and heavy wall tubing.

HEAVY WALL TUBING: Sizes include: O.D. from 1/2" to 2"; I.D. from 3/8" to 1 1/2". Tolerances: I.D. +0 0, −.030; O.D. +.030, −0.0. Nylon used is Type 6 or 66.

ROD: Centerless ground. 1/4" to 2". Stock length: 10 ft. Other lengths available on request.

STRIP: Thickness: .015", .020", .025" .031", .040", .050", .062", .093", .125", Width: 1/4" to 6".

NYLON-COATED INDUSTRIAL CABLE in a wide variety of sizes for many applications such as belt lacing, drawing board cables, manual controls, artificial limbs, etc.

See Danco on your molding problems in Nylon and other engineering thermoplastics.

DANCO

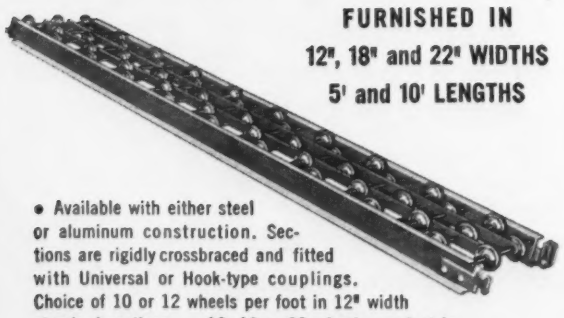
Write for new, complete literature. Free.

THE DANIELSON MANUFACTURING COMPANY
A Subsidiary of Nicholson File Company
KING STREET, DANIELSON, CONNECTICUT

For more details circle NED-388 L1 on enclosed inquiry slip

AUTO-Glide

WHEEL CONVEYER SECTIONS



FURNISHED IN 12", 18" and 22" WIDTHS 5' and 10' LENGTHS

• Available with either steel or aluminum construction. Sections are rigidly crossbraced and fitted with Universal or Hook-type couplings. Choice of 10 or 12 wheels per foot in 12" width standard sections . . . 12, 16 or 20 wheels per foot in 18" width; 16, 20, 24, 28 in 24" width. Zinc coated steel or aluminum wheels. Frames are 2-1/2" formed channel. For further information write for Catalog MSP-G1-61 to Mathews Conveyer Company, Standard Products Division, Ellwood City, Pa.

MATHEWS
DISTRIBUTORS LOCATED IN PRINCIPAL CITIES

For more details circle NED-389 L1 on enclosed inquiry slip

AUTO-Glide

PORTABLE BELT CONVEYERS

PROVIDE LOW-COST TROUBLE-FREE PORTABLE PACKAGE HANDLING

MODEL WC-100

• Available in suitable sizes and capacities for loading and unloading. Model WC-100 employs spring-loaded raise and lower mechanism for instant adjustment. Constructed of rigid, welded tubular steel. Roller chain drive assures positive flow of boxes, bags, cartons, cases or crates as high as 30- degree incline. For further information write for Bulletin PB 860 to Mathews Conveyer Company, Standard Products Division, Ellwood City, Pa.

MATHEWS
DISTRIBUTORS LOCATED IN PRINCIPAL CITIES

For more details circle NED-392 L1 on enclosed inquiry slip

AUTO-Glide

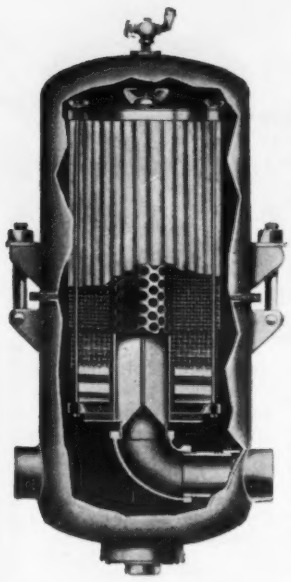
STANDARD DUTY ROLLER CONVEYERS

CONSTRUCTED OF STEEL OR ALUMINUM
AVAILABLE IN 5 FT. OR 10 FT. SECTION LENGTHS

• Rollers are equipped with high-quality ball bearings and are available in various lengths and spacing to meet any handling requirement. Rigid, formed channel frame construction employs Universal or Hook-type couplings for fast and easy assembly. For further information write for Catalog MSP-G1-61 to Mathews Conveyer Company, Standard Products Division, Ellwood City, Pa.

MATHEWS
DISTRIBUTORS LOCATED IN PRINCIPAL CITIES

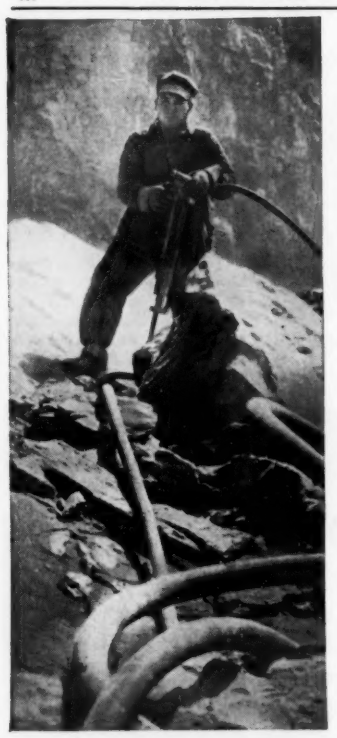
For more details circle NED-395 L1 on enclosed inquiry slip



Keep oil, chemicals, water free of contamination. Specify Dollinger Staynew Liquid Filters for highly-efficient cleaning of practically all types of fluids. Remove the finest particles with minimum loss of pressure. Exclusive radial fin design provides greatest active filtering area for available space. Cleaning or replacement of filter is simple, inexpensive. Consult your Dollinger representative for more details. Or, write for Bulletin 300. Dollinger Corporation, 49 Centre Park Rochester 3, N. Y.

STAYNEW DOLLINGER FILTERS

For more details circle NED-396 L1 on enclosed inquiry slip



HOMOFLEX AIR HOSE

"FLEXIBLE AS A ROPE"

- STRONG
- LIGHT
- KINKLESS

More flexible and lighter than any other hose for equal pressure. Lasts longer, precision built, uniform diameter, lower end cost. Made also in extra-heavy type for mining.

Write for Catalog M610.

RM 1014

Engineered Rubber Products . . More Use Per Dollar

RAYBESTOS-MANHATTAN, INC.

MANHATTAN RUBBER DIVISION, PASSAIC, NEW JERSEY

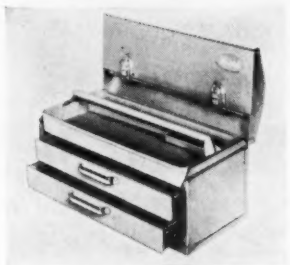
For more details circle NED-397 L1 on enclosed inquiry slip

TEMPERATURE PROBE
measures in out-of-reach places

This sectional probe system may be used to measure temperature of granular or powdered materials in out-of-reach places. High accuracy over a 20 to 150° F range is obtained from the tiny thermistor contained in the probe's sensing tip. System consists of a temperature meter with shoulder strap, four 3-ft internally wired probe sections, and the quick-responding tip. Extra probe sections are offered. Instrument is powered by long life mercury batteries which maintain accuracy. For permanent or semipermanent location where frequent readings must be made, in noncorrosive liquids as well, 25-ft cables with sensing tips and meter connections are available. • **Radson Engineering Corp.,** Macon, Ill.

For more details circle NED-399 L1 on enclosed inquiry slip

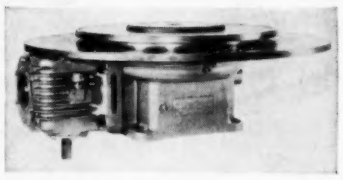
TOOL BOX & CHEST
combines two drawers and tote tray



Opening the hip-roof top of Model 110 tool box and chest reveals two full-length drawers and a tote tray. Drawers pull out on spillproof compound slides. The one-piece drawn steel tote tray has rounded corners, a socket compartment, and a tubular full-length handle. The 20 x 9 x 9½-in. box-chest closes with two heavy-duty latches. A padlock hasp is also provided. Price is $18. • **Huot Mfg. Co.,** 500 N. Wheeler, St. Paul 4, Minn.

For more details circle NED-400 L1 on enclosed inquiry slip

INDEX TABLE
accurate to 0.001 in.



Heavy-duty 28-in. diameter Series A index table is accurate to within 0.001 in. with dial plate loads to 18,000 lb. Unit efficiently handles up to 24,000 in.-lb loads. It features Timken bearing near outside diameter of cam follower plate and is adaptable to any dial plate chosen by user. Hollow shaft brings air, fluids, coolants, or additional tooling directly to center of work area. Shaft mounted speed reducers can be used. Table maintains zero backlash in dwell position. • **Commercial Cam & Machine Co.,** 455 N. Artesian Ave., Chicago 12, Ill.

For more details circle NED-401 L1 on enclosed inquiry slip

Easy to move heavy loads

With the New SHOPLIFTER DeLuxe

DeLuxe MOBILITY
Big 8" and 5" rubber wheels for easy movement across rough floors and also protection for finished floors.

DeLuxe LIFT
Full 60" — yet overall height is only 78" for easy movement thru doorways and in narrow aisles.

DeLuxe CAPACITY
750 lbs. rated capacity. All steel construction, electrically arc-welded permits overloads.

DeLuxe FEATURES
Positive control hoist unit, backguard platform plate, tool tray, turned-down platform edge, painted safety orange.

Order Your Deluxe Shoplifter Today!
Immediate shipment from factory stock.

Price: $280.00 f.o.b. Chicago

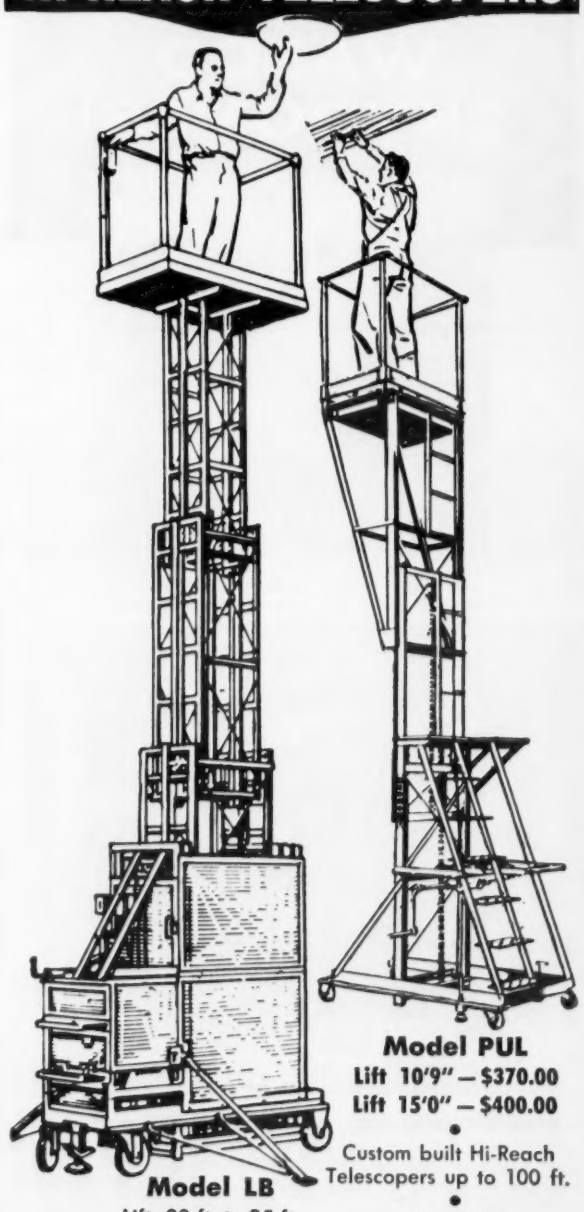
Ten-day free trial, if desired, with full credit return privilege.

Model DL

ECONOMY ENGINEERING
4519 W. Lake St.
Chicago 24, Ill.

For more details circle NED-402 L1 on enclosed inquiry slip

OVERHEAD SERVICING is Faster and Safer with HI-REACH TELESCOPERS



Model PUL
Lift 10'9" — $370.00
Lift 15'0" — $400.00

•

Custom built Hi-Reach Telescopers up to 100 ft.

•

Write for complete catalog

Model LB
Lifts 20 ft. to 35 ft.
$1510.00 up

Headquarters for standard and special built overhead servicing lifters and material handling equipment since 1901.

ECONOMY ENGINEERING
4519 W. Lake St., Chicago 24, Illinois

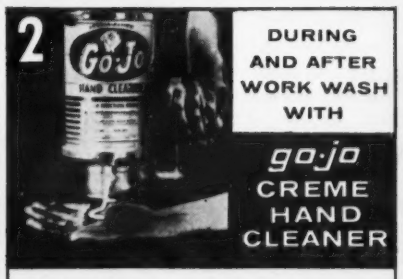
For more details circle NED-403 L1 on enclosed inquiry slip

INTRODUCING THE go-jo 3-STEP PROGRAM FOR HAND CARE

Maximum Cleansing Effectiveness Plus Positive Precaution Against Skin Irritation

1 BEFORE WORK APPLY go-jo LIQUID PROTECTIVE SKIN COAT

Helping squelch trouble before it begins, new Go-Jo Liquid Protective Skin Coat creates an invisible, greaseless barrier that prevents dirt and irritants from entering the pores. Liquid Protective Skin Coat does not impair sensitivity as do gloves and will not affect materials handled.



2 DURING AND AFTER WORK WASH WITH go-jo CREME HAND CLEANER

It's best to wash as often as grease and grime accumulate. (Prior application of Skin Coat facilitates clean-up.) Go-Jo Creme Hand Cleaner contains antiseptic GT-7 to help prevent irritation, and may be used without water for the frequent on-the-spot clean-ups.

3 AFTER WORK APPLY go-jo LIQUID PROTECTIVE SKIN COAT

Because its emollient ingredients replace natural skin oils and soothe tiny nicks and scrapes, it aids in keeping the hands in good condition for the next day's work.

The Go-Jo Heavy Duty Dispenser cuts handcleaning costs up to 75% by delivering the right amount of Go-Jo Creme Hand Cleaner for a quick, thorough clean-up. Precision engineering eliminates waste.

FOR MORE INFORMATION WRITE: Dept. NED-111

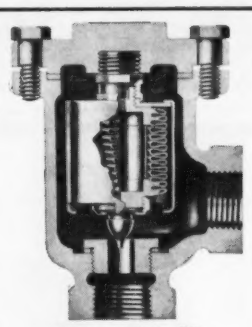
THIS go-jo TEAM COMBATS DIRT AND DERMATITIS WITH A SOLID ONE-TWO PUNCH!

GOJER, INC. Box 991 Akron 9, Ohio

MANUFACTURER OF go-jo PRODUCTS

For more details circle NED-398 L1 on enclosed inquiry slip

GREATEST CAPACITY PER DOLLAR COST...



Sarco Thermostatic Steam Trap Type No. 9

Sizes — ½ to 2"
Write for Bulletin 250

7 important advantages!

1. **Greatest capacity per dollar cost** — 1" size discharges 9,650 lbs/hr at 10°F below steam temperature, 125 psi.
2. **Same head and seat for 0-300 psi** — no change of heads or seats for varying loads and pressures.*
3. **Fewer parts to stock** — same bellows, head and seat for 0-300 psi.*
4. **Very compact and light** — ¾" size fits in palm of hand. Weighs only 3¾ lbs.
5. **Freeze-proof** — wide open, self-draining when cold.
6. **Only one working part** — the thermostatic element. Inspected or replaced in few minutes without moving trap from line.
7. **Every trap steam-tested** — at rated max. pressure.

No. 9-300—Cast steel body and cap, with Monel metal bellows

4179

SARCO
SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA.

For more details circle **NED-404 L1** on enclosed inquiry slip

glass skylight troubles?

INSTALL WASCO SKYDOMES!

This half-century old warehouse was plagued with leaky, broken glass skylights requiring frequent repair and replacement. Constant film of dirt and grime blocked out daylight.

Maintenance costs disappeared! Weather-proof, shatter-proof, all-acrylic Wasco Skydomes shun dirt, admit more daylight. Built-in condensation drainage channel assures leakproof installation.

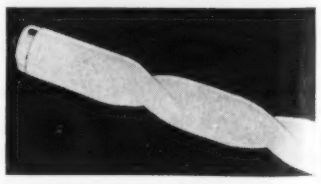
Glare-free Wasco daylighting opens up dim interior areas, cuts electricity costs, permits fuller use of floor space. Old skylights need not always be ripped out, can often be covered with Wasco Skydomes. Special mountings for easy, inexpensive installation. Wide variety of sizes, shapes, densities.

FOR INFORMATION, contact Wasco. We'll gladly furnish the name of a qualified applications engineer.

WASCO SKYDOMES
WASCO PRODUCTS DEPARTMENT
AMERICAN CYANAMID COMPANY
5 BAY STATE RD., CAMBRIDGE 38, MASS.

For more details circle **NED-405 L1** on enclosed inquiry slip

SPIRAL FLUORESCENT TUBE design achieves high light output



Helicoidal (spiral) configuration of this Power-Twist fluorescent tube has a pear-shaped cross section that delivers a high light output. The bulb fits all existing fluorescent fixtures in most sizes commonly used for commercial and industrial purposes. When viewed uncovered, tube creates a visual effect similar to glare-reducing louvers. • **Duro-Test Corp.**, 2400 Hudson Blvd., North Bergen, N. J.

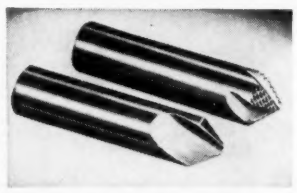
For more details circle **NED-406 L1** on enclosed inquiry slip

MELTING KETTLE for organic, inorganic materials

Cylindrical melting tank, with heat applied uniformly around the sides and on the bottom, is incorporated in the Model KA electric melting kettle. It will melt organic and inorganic materials at temperatures from 300 to 600° F, particularly Rezolin Paraplast mold material for filament winding mandrels and honeycomb stabilizing. Adjustable automatic controls hold the contents within ±5° F at any molten temperature to 550° F. An agitator is furnished for manual or motor-driven mixing. Electrically heated quick-acting lever valve with automatic control is incorporated. Capacities range from 90 to 5800 lb. • **Trent Inc.**, 211 Leverington Ave., Philadelphia 27, Pa.

For more details circle **NED-407 L1** on enclosed inquiry slip

PLASTIC & METAL TOOLS chamfer and countersink types



Chamfering and light countersinking of hard and soft plastics, glass fiber reinforced plastics, and ferrous and nonferrous metals can be performed with the Chamfersink, a multifluted tool for machine use. It leaves a clean, smooth seat in most plastic materials. Also suited for deburring, it is available with 60, 82, and 90-degree angles. Monoflute countersink is designed for rapid, precise countersinking in various materials, including tough and abrasive exotic metals. Smooth, chatter-free seat is obtained with the 60, 82, and 90-degree angle tools. Special angles can be obtained. • **Dixie Tool Industries, Inc.**, Bridgeport, Mich.

For more details circle **NED-408 L1** on enclosed inquiry slip

FREE

EMPLOYEE MOTIVATION KIT

INCLUDES:

- **SUCCESSFUL SUPERVISION**
  MOTIVATION
  LINE-STAFF RELATIONS
  CASE STUDIES
- **MULTI-COLOR DISPLAYS**
  QUALITY WORK
  WASTE REDUCTION
  INJURY PREVENTION
  RELIABILITY
- **50 PAGE PLANNING GUIDE**

This valuable kit is yours without obligation. Simply fill out the coupon and mail it today.

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MOUNT VERNON, NEW YORK

ELLIOTT SERVICE COMPANY, INC.
Dept. E, Mount Vernon, N. Y.
Please provide me with the Elliott "Employee Motivation Kit."
Name .....
Title .....
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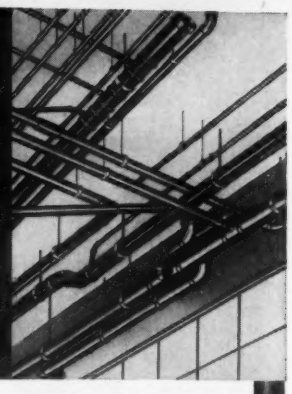
Address .....
City .....Zone..... State .....

For more details circle **NED-409 L1** on enclosed inquiry slip

Vulcathene

Costs Less, Weighs Less, Installs Faster than any other Acid-Proof Drainage System



Here's the proved, modern way to drain corrosive wastes—at less than half the cost of other systems. Vulcathene has everything you need—pipe, fittings, sinks, traps, in a wide range of sizes—competitively priced for *any* waste system. Save on economical installation and trouble-free, maintenance-free life:

FASTEST, EASIEST INSTALLATION! Lift 20' sections with one hand; make leak-proof joints in *seconds* by the patented Polyfusion® method.

CORROSION-PROOF, ACID-PROOF, SHATTER-PROOF . . . the trouble-free material for all waste systems.

CLOG-PROOF, SCALE-PROOF! Smooth, non-adhering bore throughout.

Find out how you can save *every* way with use-tested, time-tested Vulcathene.

WRITE Dept. 3511 for new catalog.

American Vulcathene
P.O. BOX 365 · ROCHESTER 2, NEW YORK
DIVISION OF THE NALGE CO. INC.

For more details circle **NED-410 L1** on enclosed inquiry slip

MOVE CARTONS, BOXES, BALES or BAGS
***FAST,* EASILY AT LOW COST!**

WITH THE AMAZING

Ve-Be-Veyor

- *LIGHT WEIGHT—EASY TO MOVE*
- *UP TO 30% INCLINE*
- *HIGH POWER*
- *PLUGS IN ANY 110-120 OUTLET*
- *FULL 12" RUFF-TOP BELT*

ONLY $461.00 for 12 foot model shown. 16 foot and 20 foot models plus extra accessories are available.
Prices F.O.B. Morton Grove plus state taxes.

★

SEND FOR FREE BULLETIN

Get all the dope on this high speed, versatile, little "powerhouse" conveyor. Does 1001 jobs in plants of all kinds. ASK FOR YOUR LITERATURE TODAY.

CSI Farquhar
CONVEYOR SYSTEMS, INC.
A-B FARQUHAR DIVISION
6465 W. Main Street • Morton Grove, Ill.
Phone Chicago—JU 8-0200

See your CSI-Farquhar Dealer or Write Direct!

For more details circle **NED-411 L1** on enclosed inquiry slip

How to select

WORM GEAR Drives

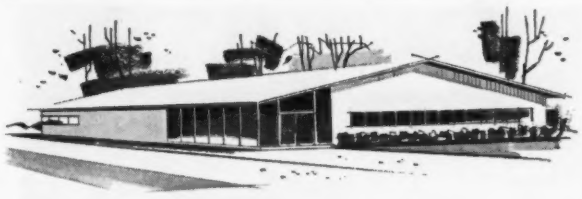
***FREE* TO DESIGN ENGINEERS**

NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

For more details circle **NED-412 L1** on enclosed inquiry slip



before you build or expand get the low prices on our new

TRUSSPAN *Steel Building*

Choose TRUSSPAN and you can build as fancy or as plain, as big or as little, as high or as low, as long or as short, as wide as you want to.

Choose TRUSSPAN and you can build a storage shed or a de luxe office at lowest *in-place* cost. Check the cost and your choice will be TRUSSPAN. Call your TRUSSPAN Dealer-Contractor or Truscon Representative for more detailed information.

REPUBLIC STEEL
TRUSCON DIVISION
Youngstown 1, Ohio

For more details circle NED-413 L1 on enclosed inquiry slip

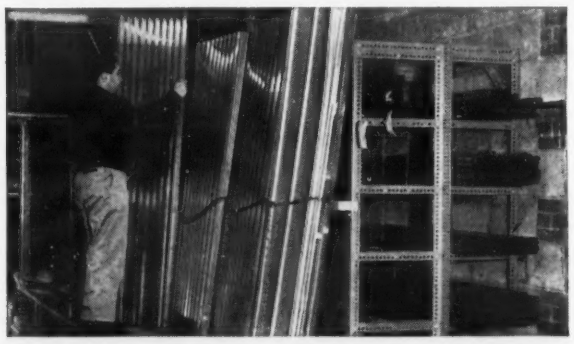
Sulphur dioxide atmosphere eats away I-beam while "DEKORON®-COATED" E.M.T. remains unharmed.

Republic ELECTRUNITE® "DEKORON-COATED" E.M.T. resists corrosive atmospheres

Every length of "DEKORON-COATED" Electrical Metallic Tubing is coated with a tough polyethylene shield for highest resistance to fumes, gases, steam, and other corrosive conditions. Couplings and fittings can also be protected with plastic tape for end to end corrosion protection of the entire raceway system. Send for complete information.

REPUBLIC STEEL
STEEL AND TUBES DIVISION
233 East 131st St. • Cleveland 8, Ohio

For more details circle NED-414 L1 on enclosed inquiry slip



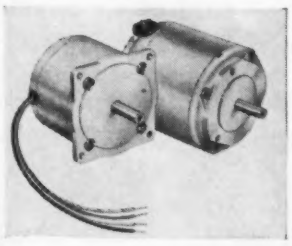
CUSTOM-MADE STORAGE that you can build yourself!

The building material of a thousand uses, Republic METAL LUMBER® solves every storage problem. Simply measure and cut, like lumber, and assemble with standard bolts and nuts. Makes whatever you need, in the size and arrangement you need... bins, racks, benches, steps, catwalks... you name it! Available fast, from your Republic distributor, delivered in bundles of 10- or 12-foot lengths. Call, or write for idea brochure.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-415 L1 on enclosed inquiry slip

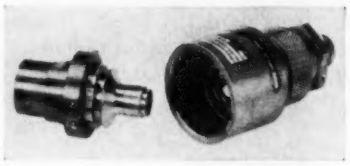
SYNCHRONOUS MOTORS in 50-250 oz-in. torque ratings



Torque ratings of 50, 100, and 250 oz-in., with direct-current inputs from 2 to 50 v, are available in two Slo-Syn permanent-magnet synchronous stepping duty motors. Bifilar types are used where push-pull circuitry and a center-tapped power supply are not possible, or where increased torque at high stepping speed is required. They can be stepped by switching from one half of the winding to the other. Four-lead types, used with equipment requiring isolated windings with no common connection, operate from either a single-ended power source, with double-pole double-throw switching, or from a center tapped supply with single-pole double-throw switching. • **Superior Electric Co.**, 83 Laurel St., Bristol, Conn.

For more details circle NED-416 L1 on enclosed inquiry slip

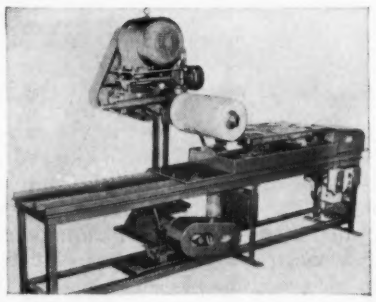
FLUID LINE CONNECTORS indexed to prevent cross-connection



Aluminum is standard and stainless steel optional in N4R Series of Inst-O-Matic fluid connectors, designed for operating pressures of 3000 psi. Temperature depends upon the seal material used. Multiple key-and-slot indexing that allows up to nine different index combinations to prevent cross-connection of wrong fluid lines is built into each size. Usable in multiple fluid line installations on panels or consoles they are supplied with permanent attached dust caps and plugs. The push-pull connect-disconnect units are made in 1/4 to 1-in. line sizes with self-sealing poppet valves for full flow in either direction. • **E. B. Wiggins Oil Tool Co.**, 3424 E. Olympic Blvd., Los Angeles 23, Calif.

For more details circle NED-417 L1 on enclosed inquiry slip

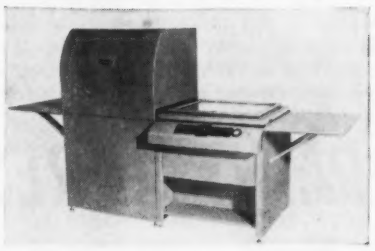
BUFFING MACHINE buffs flat parts to satin finish



Oscillating work holding fixture mounted on a reciprocating platen comprises the Acme automatic straight line buffing machine. Such flat shaped parts as stove, table, and sink tops, nameplates, kick plates, and grilles are buffed to a satin finish by the machine. An Acme G-1 floating head adjustable buffing lathe performs the finishing operations. Solenoid-operated timer controls the length of the predetermined work cycle. Motor-driven oscillating fixture provides uniform wheel wear and eliminates buff streaking by oscillating 1/4 in., 200 times per minute. Platen speed can be varied over a range of 5 to 15 fpm. Machine shown is 24 in. wide and 14 ft long. Length is dependent on type and size of part to be finished. • **Acme Mfg. Co.**, 1400 E. Nine Mile Rd., Detroit 20, Mich.

For more details circle NED-418 L1 on enclosed inquiry slip

PRINTED CIRCUIT EXPOSURE UNIT exposes both sides simultaneously



Both sides of printed circuit laminates are exposed at the same time on this semi-automatic printed circuit exposure frame. It will also expose single-sided laminates. Mercury vapor lamps with a reflector assure even light distribution. Timer holds the Mylar-top glass-bottom frame in the light chamber for the correct period and automatically ejects it. Both sides can be viewed after contact. Frame takes laminates up to 20 x 25 in. and up to 1/2 in. thick. • **Colwell Litho Products, Inc.**, 123 N. Third St., Minneapolis, Minn.

For more details circle NED-419 L1 on enclosed inquiry slip

Two sizes: 36" wide x 44" long x 29" high — or 36" wide x 29" long x 29" high.

New! Republic

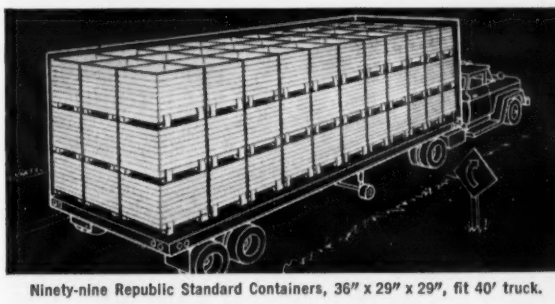
STANDARD CONTAINERS FOR FASTER HANDLING, FASTER LOADING!

Dimensions based on thousands of industry interviews... containers sized to fit box cars and trucks, *without* wasted space! Easier, more efficient, faster to load! Pick up from any side with truck or sling... designed for roll-over dumping. Safe-tiering, nest-able for storage and up to 25% savings on empty returns!

A real breakthrough, to assure you lower handling costs. Call your Republic Distributor now, or write direct.

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-420 L1 on enclosed inquiry slip



Ninety-nine Republic Standard Containers, 36" x 29" x 29", fit 40' truck.

New! Republic

STANDARD CONTAINERS FOR TRUCK SHIPMENT

...without an inch of wasted space!

Truck-ship 99 Republic Standard Containers in one standard truck... as many as 117 in trucks with 10' ceiling. Nest the empties for 25% savings on returns! A real breakthrough... containers that tier and nest... containers that fit *all* common carriers without wasted space! Two sizes: 36" x 44" x 29" — 36" x 29" x 29".

Call your Republic distributor now for full information, or write direct!

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

For more details circle NED-421 L1 on enclosed inquiry slip

One hundred eighty Republic Standard Containers fit standard 50'-6" car. Inset, four-high stacking in car with 10'6" ceiling... 240 containers!

New! Republic

STANDARD CONTAINERS FOR RAIL SHIPMENT

...without an inch of wasted space!

Rail-ship as many as 240 Republic Standard Containers per car... and *nest* empties for 25% savings on returns. A real breakthrough... containers that tier and nest... that fit *all* common carriers without wasted space! Two sizes: 36" x 44" x 29" — 36" x 29" x 29".

Call your Republic distributor now for full information, or write direct!

REPUBLIC STEEL
BERGER DIVISION
1034 Belden Ave. • Canton 5, Ohio

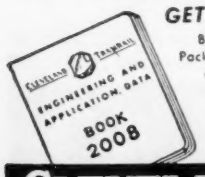
For more details circle NED-422 L1 on enclosed inquiry slip

UPS PRODUCTION 300%

TRAMRAIL SYSTEM PAYS FOR ITSELF IN SIX MONTHS

After a reinforcing rod plant built a new building and equipped it with Cleveland Tramrail cranes, costs took a nose dive.

Whereas 8 men formerly worked 8 hours in the old building to unload a car of rods, two men now do the job in 30 minutes with Tramrail cranes. The Tramrail cranes have enabled doubling the production, and at the same time reducing man-hours by one-half.



GET THIS BOOK! BOOK No. 2008 Packed with valuable information...

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6647 East 285th St., Wickliffe, O.

CLEVELAND TRAMRAIL

For more details circle NED-423 L1 on enclosed inquiry slip

M&M AIR FLUFF PAPER SHREDDER

101

A valuable machine, to you, for the speedy, safe, efficient disposition of blueprints, letters, confidential records. The M & M Air Fluff Paper Shredder is also a money saver to those companies that use quantities of paper excelsior—by converting waste paper into valuable excelsior. Adjustable cuts of 1/8", 3/16", 1/4", or 3/8" widths. Models range in productive capacities from 200 to 2500 pounds per hour. Write for descriptive folder.

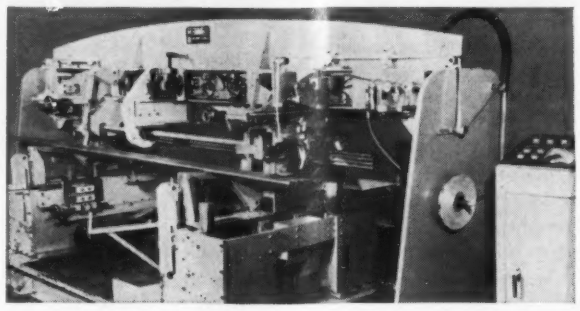
MITTS & MERRILL

1000 SO. WATER ST. • SAGINAW, MICHIGAN

For more details circle NED-424 L1 on enclosed inquiry slip

CONDUIT & TUBE BUNDLER wraps tape around tube at rate of six bundles per minute

Bundles of conduit, tubing, lumber, extrusions, and other long, slender objects are wrapped with a pressure-sensitive Scotch filament-reinforced tape at speeds up



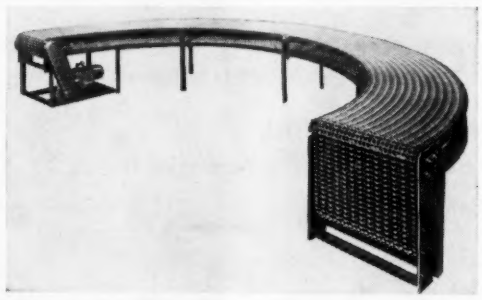
to six bundles per minute by the Remmele conduit and tube bundler. The desired number of tubes is metered out, arranged in the desired shape and bundled with from 1½ to 6 wraps of tape, all under dial control.

Machine rotates the tube bundle to achieve uniform tape tension and speed the wrapping action. Tape bands can be placed anywhere along the bundle length which can range from 10 to 20 ft. Machines to handle almost any tube length are available. Unit measures 5 x 6 x 3 ft, operates on 220 or 440 v, and handles tape from ½ to 2 in. wide. • **Remmele Engineering, Inc.**, 515 University Ave., St. Paul 3, Minn.

For more details circle NED-426 L1 on enclosed inquiry slip

CURVED BELT CONVEYOR widths from 3 to 36 in.

Curve-O-Belt power driven wire mesh conveyor with a working load of about 180 lb per loop is available in low carbon cold rolled steel, bright high carbon steel,

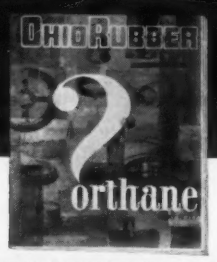


and stainless steel. Belt widths range from 3 to 36 in. Recommended inside minimum radius is two and one-half times belt width; maximum radius is provided to suit the application. Fixed and variable speeds are available up to 150 fpm. Various combinations of wire and construction available include double width, side by side, and double and triple tiered belts, which may be used in straight runs or continuous closed loop runs. • **Sage Equipment Co.**, 30 Essex St., Buffalo 13, N. Y.

For more details circle NED-427 L1 on enclosed inquiry slip

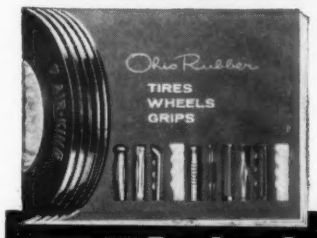
OHIO RUBBER

Free! New Design Data



FULL ORCO STORY — Materials, compounding, formulating, forms & shapes, metal adhesion, engineering tips and application ideas. Form No. 730

ORTHANE® INFORMATION — Physical properties, applications, durometer & chemical resistance data of OHIO RUBBER polyurethanes explained in detail. Form No. "Orthane"



COMPLETE DETAILS — Types, sizes, application data, design information on ORCO's new full line of tires, wheels, & grips. Form No. 714-A

Factories:
Long Beach, Calif.
Fort Smith, Ark.
Willoughby, Ohio
Conneautville, Pa.
Stratford, Conn.

G-62

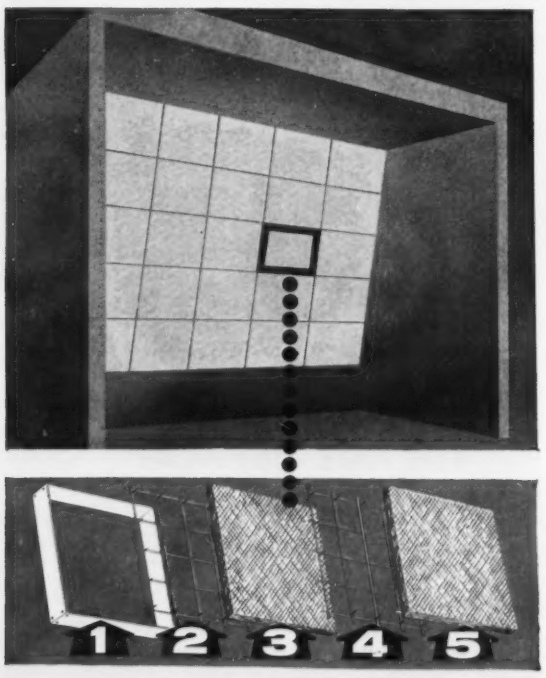
ORCO THE OHIO RUBBER COMPANY
WILLOUGHBY, OHIO
A DIVISION OF THE EAGLE-PICHER COMPANY

For more details circle NED-428 L1 on enclosed inquiry slip

LOOK AT THE FINE POINTS OR YOU'LL MISS THE PAYOFF! Royal equipment is literally packed with fine points that tailor it to the specific jobs of industry. The Royal Model 515 adjustable chair is typical: contoured, 4-way adjustable back is mounted on strong spring steel to conform to the slightest body movement. Adjustable legs telescope to most comfortable working height. There are no protrusions to catch clothing or cause injuries. The payoff is worker comfort, efficiency and safety. It's the same with Royal-DeLuxe cabinets. All corners are rounded, all hinges and fastenings are concealed. Extra heavy gauge panels are flush finished. Doors are rigid, shelves are adjustable and every cabinet is ventilated. There are dozens of Royal chairs, stools and cabinets for industry. Each is packed with fine points that make it more efficient, more useful, more valuable. Write today for full details and the name of nearest dealer. ROYAL METAL MANUFACTURING COMPANY, Dept. 25-K, One Park Ave., N. Y. 16, N. Y. In Canada—Galt, Ont.

Royal INDUSTRIAL DIVISION

For more details circle NED-429 L1 on enclosed inquiry slip



A Paint Arrestor module consists of a Holding Frame (1), two Snap-in Grids (2 and 4), two Paint Arrestors (3 and 5). Loaded Paint Arrestors are simply replaced as necessary. And, they're also ideal for air-borne ink, mist, dye, frit, etc.

CONTROL PAINT OVERSPRAY the inexpensive, effective way!

The advantages of R P Paint Arrestors, the inexpensive, disposable air filters are many. Overspray solids are trapped before they reach the exhaust stack... to reduce fire hazards, damage to adjacent property... disagreeable and time-consuming maintenance work. Installation? —easy and fast. Maintenance? —remove loaded Paint Arrestor and replace a new one. Adaptability? —ideal for any type, any size booth, new or existing.

RP PAINT ARRESTORS

UL Listed

RP Products of Research

RESEARCH PRODUCTS Corporation
Dept. 32-K, MADISON 1, WISCONSIN

For more details circle NED-425 L1 on enclosed inquiry slip

Speed Tying Operations!

★ Cheaper than String
★ Faster than Tying
★ Sure Grip — no Knots
★ New Measuring Cutter

Cut tying time in half! Hanscom-Ties (colorful plastic or paper covered wire) are the fast, sure way to bundle wires, cords, coils, etc. . . . temporarily and permanently. New Measuring Cutter dispenses faster than ever! Ties are cheaper by the spool (as little as 9 ft. for a penny!)

Measuring Cutter $7.95 Complete

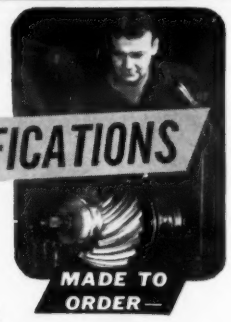
FREE TIE SAMPLES . . . TRY THEM YOURSELF!

Hanscom-Ties CUTTER
Pats. and Pats. Pend.

H. F. HANSCOM & CO., INC., 15 Virginia Ave., Providence 5, R. I., U.S.A.

▲ For more details circle NED-430 L1 on enclosed inquiry slip ▲

GEARS to your SPECIFICATIONS



EFFICIENTLY! ECONOMICALLY!

Making gears to meet YOUR SPECIFICATIONS is our business. The special or unusual requirements you have for design...size...finish ...tolerances...materials...and heat treatment are often "standard" at FAIRFIELD. Here, every facility needed is available to you for production of fine gears EFFICIENTLY, ECONOMICALLY. *LARGE or SMALL, your requirements will receive prompt attention.* CALL or WRITE TODAY.

SPIRAL BEVEL
STRAIGHT BEVEL
HYPOID
HERRINGBONE
HELICAL
DIFFERENTIALS
SPUR
WORMS AND WORM GEARS

FAIRFIELD MANUFACTURING CO., INC.

For FINE GEARS

2335 S. Concord Rd. Lafayette, Indiana

▲ For more details circle NED-431 L1 on enclosed inquiry slip ▲

JUST WON'T SLIP. . .

Granet's new wet-grip **PYTHON** Neoprene just won't slip . . . even under the most trying conditions . . . yet costs no more than smooth neoprene coated or leather work gloves.

The wet-grip feature of **PYTHON** neoprene coated work gloves is a big plus for the man working with oil . . . grease . . . chemicals or other slippery materials.*

Flannel lining with wing thumb for added comfort and wear. Variety of styles . . . knit wrist to 18" gauntlet.

**Prove it to yourself . . . write for a free pair on your letterhead . . . and put them to the test!*

THE GRANET CORP.
25 LORING DRIVE, FRAMINGHAM, MASS.

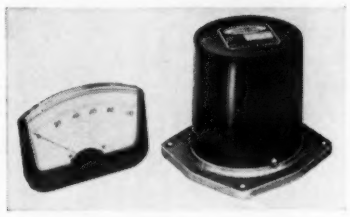
▲ For more details circle NED-432 L1 on enclosed inquiry slip ▲

AIR HANDLERS
heat or cool, filter, and circulate

Thirty-seven horizontal, vertical, and multizone air handlers in 14 sizes afford capacities from 600 to 44,000 cfm at a nominal outlet velocity of 1600 fpm. They will heat or cool air, remove dirt, humidify or dehumidify, or serve as simple air circulators. Steam or hot water heat and water chiller or direct expansion coil cooling can be used. The 11 multizone units have up to 19 individual zones. Galvanized metal units with 1-in. Fiberglas insulation are available with six motor positions and four fan discharge positions. • **Acme Industries, Inc.**, 600 N. Mechanic St., Jackson, Mich.

▲ For more details circle NED-433 L1 on enclosed inquiry slip ▲

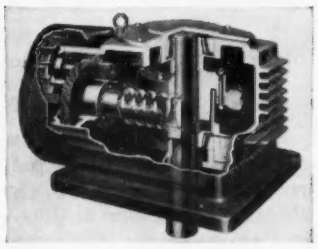
POSITION INDICATOR & CONTROL
for butterfly valves, dampers



Remote indication of position of butterfly valves, dampers, and other process control equipment is provided by this position indicator and control. The PF-11 sensor is offered with weatherproof or explosionproof enclosure, face or flange mounting, and with straight or hollow shaft for direct, gear, chain, or belt connection to driving shaft. Potentiometers and/or limit switches provide control. The MR-61 indicating meter, which is unaffected by line voltage changes, has a trimming rheostat for calibrating with the sensor. It is offered for panel mounting, or in a NEMA 1 or explosionproof enclosure. • **Jordan Controls, Inc.**, 3235 W. Hampton Ave., Milwaukee 9, Wis.

▲ For more details circle NED-434 L1 on enclosed inquiry slip ▲

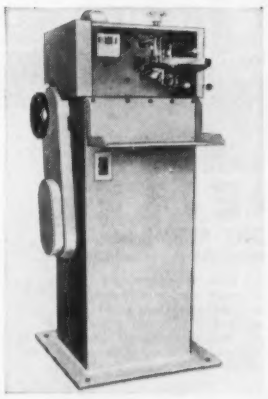
SPEED REDUCERS
output torques to 145,000 lb-in.



Helical and worm gear double reduction combination used in these speed reducers runs in a common oil bath for cooling and lubrication. Type HUF units have upward extending output shafts and Type HDF units have downward output shafts with dry well construction to avoid oil leakage. Both helical and worm gears will withstand the same momentary overload of 300 per cent of rated load. Aluminum or plastic cooling fans on the high speed pinion cool the finned cast iron housing. Shafts are designed to accept high overhung loads. Reducers are offered in ranges from 35:1 to 250:1 in ratings from fractional to 60 hp. Output torques are up to 145,000 lb-in. • **Eaton Mfg. Co.**, Cleveland Worm & Gear Div., 3300 E. 80th St., Cleveland 4, Ohio.

▲ For more details circle NED-435 L1 on enclosed inquiry slip ▲

SPRING FORMING MACHINE
improved for greater versatility

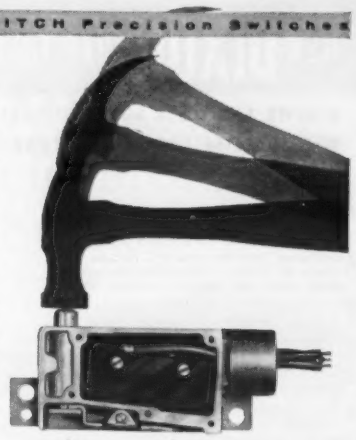


Design changes incorporated in the SpringGenerator spring forming machine include improved feed which affords more time for coiling and smooths the operation. Tool cams and holders have been redesigned to increase the machine's spring size range, and a modified brake improves wire feeding accuracy. Machine accepts wire diameters from 0.008 to 0.034 in. and has a load tolerance within ±5 per cent. It produces springs in a single operation, without limit to end loop shape, at rates from 720 to 6000 per hour. • **Baird Machine Co.**, 1700 Stratford Ave., Stratford, Conn.

▲ For more details circle NED-436 L1 on enclosed inquiry slip ▲

MICRO SWITCH Precision Switches

THESE SWITCHES ROLL WITH THE PUNCH — DON'T GET HURT!



HAMMER-BLOW HERE
Impact actuation of the external plunger is absorbed by a specially designed operating mechanism.

FEATHER-TOUCH HERE
A controlled force is transmitted to the diaphragm-sealed plunger of the internal switching unit.

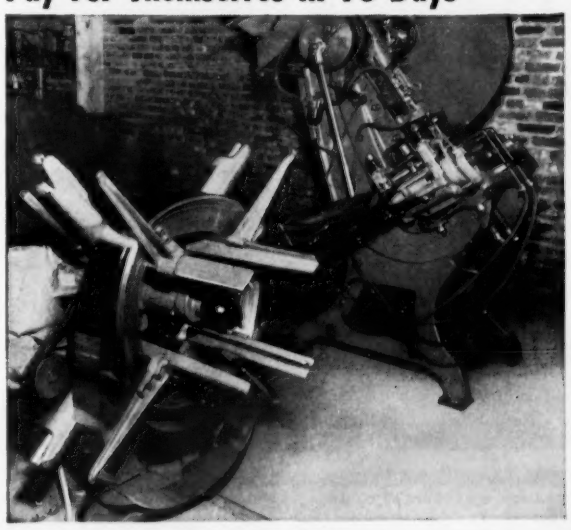
A high-strength enclosure and the special design of the actuator combine to withstand rapid, hammer-blow operation of MICRO SWITCH "LN" Switches. No. 14 insulated leads are sealed at conduit hub. A gasket inside the cover completes seal against oil and dust. See Yellow Pages for nearby distributor or write for Catalog 83.

MICRO SWITCH . . FREEPORT, ILLINOIS . . A division of Honeywell
In Canada: Honeywell Controls, Limited, Toronto 17, Ontario

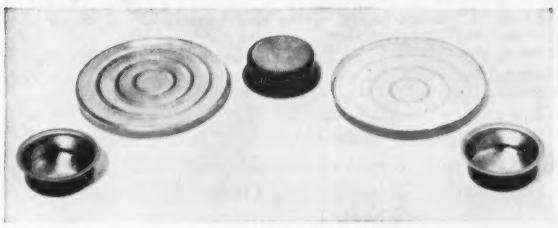
Honeywell
MICRO SWITCH Precision Switches

▲ For more details circle NED-437 L1 on enclosed inquiry slip ▲

LITTELL
Reel and Roll Feed Pay For Themselves in 90 Days



Increasing Output of these Stampings 300% on a single press



ACME Metal Cap and Closure Company of Brooklyn equipped a standard OBI press with a Littell Style M Roll Feed to replace hand feeding with automatic feeding. A Littell No. 10 Motor Driven Reel was also installed to maintain a continuing controlled flow of stock from coil to feed to die area. The result? An immediate 300% increase in press output. Acme's savings on this increased production rate paid for the Littell Feed and Reel in 90 days! Customers get better service, too.

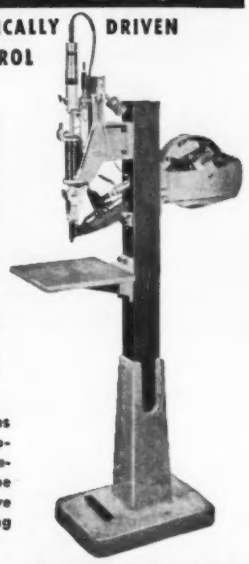
Colly Says: "Acme's experience is one more example of the profitable stamping Littell equipment brings. Get the facts in these catalogs."
Series "A" for Feeds
Series "D" for Reels

F. J. LITTELL MACHINE CO.
4169 Ravenswood Ave., Chicago 13, Ill.

▲ For more details circle NED-438 L1 on enclosed inquiry slip ▲

NEW DIXON AUTO-TORQUE Driver

SCREWS AND NUTS AUTOMATICALLY DRIVEN WITH PRECISE TORQUE CONTROL



Gives you . . .

1. Complete control of screws from parts feeder to chuck, until threads are started. No dependence on gravity to load chuck.
2. Exclusive built-in sensing, assures that screw is driven. Automatically retracts driver only after attaining proper torque.
3. Complete automatic cycle, requires only a touch of the pedal.
4. Torque accuracy within 5%, comparable to most precise hand-torquing methods.
5. Clutch free-wheels after driving. Operator cannot vary the torque.
6. Two ranges of torque available 0 to 84 inch-pounds and 48 to 120.
7. Work height adjustment with 14" range, can be made without in any way disturbing the machine adjustments.

The new DIXON *Auto-Torque Driver* includes all the features of the DIXON Auto-Positioner, and has an efficient space-saving air motor with an adjustable-torque clutch. These features provide for *positive* handling, giving new efficiency in driving screws and nuts.

Full information available in bulletin No. SD-81.

Model SD-100, above, tooled for any standard screw up to 5/16" thread size. Special tooled units with multiple feeders available. Model SD-101, without floor column, provides a complete automatic station. Maximum width 6 inches.

DIXON AUTOMATIC TOOL, INC.
2302 - 23rd AVENUE
ROCKFORD, ILLINOIS

DIXON

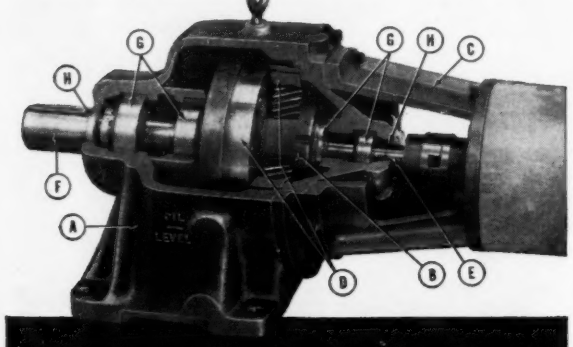
EQUIPMENT FOR AUTOMATIC PARTS HANDLING AND ASSEMBLY

▲ For more details circle **NED-439 L1** on enclosed inquiry slip ▲

Winsmith

horizontal motorized

differential speed reducers



• 7 Models • .12 to 81.51 H. P. • Ratios 1.1:1 to 50,000:1 • Max. Output Torque 50 to 113,000 in. lbs.

A. Cast Iron Housing—for high heat radiation, maximum strength and rigidity.

B. Unified Planetary Element—integral primary and secondary planetary gears mounted in ductile iron cage—for even wear, equalized load, smooth operation.

C. Cast Iron Adapter—takes any standard "C" flange motor. Flexible coupling connects motor to input shaft.

D. Internal Ring Gears—primary and secondary, heat treated alloy steel.

E. One-Piece High Speed Pinion and Shaft—hardened, accurately ground alloy steel with teeth cut integral.

F. Slow Speed Shaft—heat treated, ground alloy steel. Low speed gear web of ductile iron.

G. Tapered Roller Bearings—opposed pairs support radial load, take thrust of input and output shafts.

H. Positive Oil Seals—chevron type, oil and heat resistant, low coefficient of friction.

SERIES HM Horizontal Motorized Speed Reducers are a part of the Winsmith Planetary Differential Reducer line. They feature cut-tooth helical gears for smooth, positive power transmission — greater load carrying capacity — larger reduction ratios in smaller, more compact units — minimum wear and long service life. Winsmith Horizontal Motorized Differential Reducers are easy to install, require no bedplate, deliver more horsepower per pound of weight and cubic foot of space, and permit easier integration with the driven machine.

WRITE TODAY for complete information or call your nearest Winsmith Representative listed in the Yellow Pages. For both standard and special power transmission applications, you'll find it pays to standardize on Winsmith.

WINSMITH SPEED REDUCERS ®

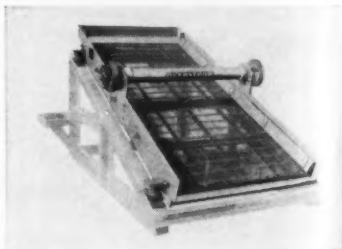
MEMBER OF AGMA

WINSMITH, INC.
216 Eaton St., Springville, (Erie County), N. Y.

• Winsmith Speed Reducers are made by American craftsmen to meet American design and production standards.

▲ For more details circle **NED-440 L1** on enclosed inquiry slip ▲

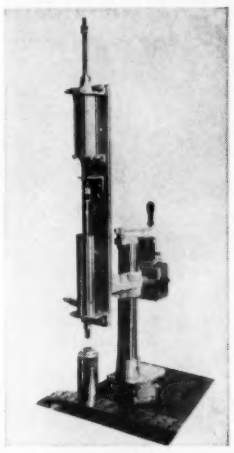
VIBRATING SCREEN
in 2 x 4 to 4 x 10-ft deck sizes



Series 500 vibrating screen is designed for light-duty screening of chemicals, minerals, and other products, as well as for sizing, scalping, and dewatering applications. Units are made in nine single and double deck sizes ranging from 2 x 4 to 4 x 10 ft, and in five triple-deck sizes from 2 x 6 to 4 x 8 ft. Features include unitized vibrator cartridge, easy amplitude adjustment, 98 per cent vibration isolation, push-type tapered bearing removal sleeves, and double piston ring grease seals. • **Overstrom & Sons, Inc.**, 1031 S. Haskell, Dallas 23, Tex.

▲ For more details circle **NED-441 L1** on enclosed inquiry slip ▲

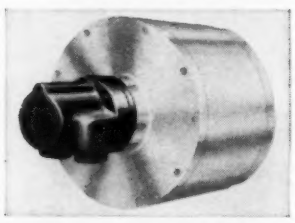
AUTOMATIC SPRAY CAN FILLER
is single air-operated unit



Air-operated Accu-Measure automatic container filler is now available as a single unit for mounting over an intermittently operated chain conveyor. When the conveyed empty aerosol spray can, pressure spray bottle, or other type container reaches a Micro Switch, air cylinder is activated to discharge a preset amount of liquid. Unit consists of a stainless steel piston assembly and an adjustable stroke air cylinder mounted above it. Liquid can be supplied from vessel on floor, bench, or nearby point. • **Scientific Filter Co.**, 57 Rose St., New York 38, N. Y.

▲ For more details circle **NED-442 L1** on enclosed inquiry slip ▲

CYLINDER AIR INLET
permits 4000-rpm rotating speed



Compact RM4 air inlet now available on S-P rotating air cylinders of 3, 4½, 6, and 8-in. bore sizes features a small shaft which permits spindle speeds up to 4000 rpm on various machines. Unit requires little maintenance and has an inlet seal that adjusts itself automatically through working pressure. Device enables rotating air cylinders to perform at low operating temperatures. • **S-P Mfg. Corp.**, 30201 Aurora Rd., Cleveland 39, Ohio.

▲ For more details circle **NED-443 L1** on enclosed inquiry slip ▲

BIRD DAMAGE USED TO COST MILLIONS

NEW MARK IX

BIRD REPELLER

360° REVOLVING LIGHT BEAMS

rout birds in warehouses, graneries, hangers, plants

Damage to steel, grain, plant equipment and warehoused goods totals millions of $$$ annually. NOW it's easy and inexpensive to get rid of birds for good . . . *results guaranteed!* Designed especially for indoor use, the MARK IX flashes 200 intense alternate-color beams per minute. Pounding light beams and frightening shadows chase the birds—prevent nesting and feeding. Corrosion-proof, lifetime housing; 115 V or 220 V; 1500 hour bulb; easily installed.

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TRIPP LITE

Famous Since 1922

Division of TRIPPE MFG. CO.
133 N. Jefferson St., Dept. NED, Chicago 6

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Light Up

dark work areas and confined spaces

DAY-RAY
PORTABLE FLUORESCENT
LIGHTS

Safe and cool When equipped with the DAY-RAY jacketed ballast, these lights meet the explosion and immersion qualities of MIL-E-5272A. Always cool, they can't burn mechanics' hands. Approved by safety engineers.

Handy and economical DAY-RAY's light weight and small diameter make them easy to grip or hang. They withstand vibration, give long life. All parts replaceable.

Choice of 6, 8, 13, 15 and 30 watt sizes. With 18" handles for barrel inspection.

Write for prices and literature

DAY-RAY PRODUCTS, INC.
South Pasadena, California

Engineers and manufacturers of fluorescent ballast systems to meet military and commercial specifications. Since 1941.

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QUALITY RINGS TRUE

There can be no sacrifice of quality when you specify snap, bearing, lock or retainer rings for your products. They literally hold products together — assuming a large, but hidden, proportion of the responsibility for customer satisfaction. From the cold drawing of the steel through forming, heat treating and finishing, Eaton-Reliance rings will hold your exact specifications and assure satisfaction for both you and your customers. Write for details.

EATON RELIANCE DIVISION
MANUFACTURING COMPANY
509 CHARLES AVENUE • MASSILLON, OHIO

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

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FIND OUT ABOUT FAIRMONT'S NEW STAINLESS CLAD ALUMINUM

Honest, unretouched photo above shows segment of something that's opening doors wide to countless product improvements and new products, leading to more and better business for fabricators: *Aluminum combined with stainless steel, in perfect molecular bond!* They said it wasn't practical, but Fairmont creativity did it! Note virtually undetectable demarcation at bond line of this homogeneous combination of two metals.

For facts, figures, application ideas, call the Fairmont office in your area. Or write *Vice-President, Sales Dept. 36K, Fairmont Aluminum Company, Fairmont, West Virginia.*

FAIRMONT ALUMINUM COMPANY
Subsidiary of **CERRO CORPORATION**

FAIRMONT, WEST VIRGINIA, Fairmont 3010 Cable Address, Farmon

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WIRE-TAINERS

Immediate Delivery

. . . at cost saving prices

STANDARD SIZES 2,000 and 4,000 lb. Capacities		
WIDTH	LENGTH	HEIGHT
32	40	24
*32	40	28
36	46	24
40	48	24
*40	48	30
48	48	24

*Side or End Gate Models

They Stack LOADED OR FOLDED

WRITE FOR FREE LITERATURE

SPRINGPORT STEEL Products Co.

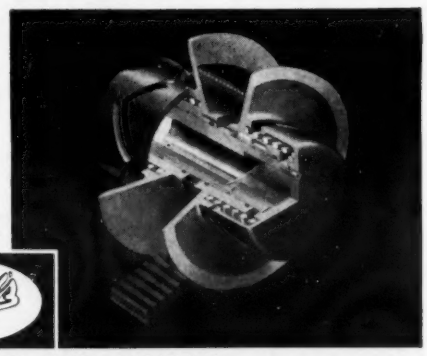
SPRINGPORT • MICHIGAN 12

▲ For more details circle NED-448 L1 on enclosed inquiry slip ▲

new, unique, "MCS" drive offers amazing advantages

Wood's new "MCS" motion control, variable speed drive holds constant driven speeds under varying torque loads. It won't freeze or stick. Practically no maintenance is required. No more downtime, running through the speed range or dismantling. The oil reservoir requires checking only once or twice a year. Look into these and many other amazing features of Wood's new "MCS" and "MS" variable speed drives.

Write for Bulletins 8102 and 4101



MCS/960

Wood's

T. B. WOOD'S SONS COMPANY, CHAMBERSBURG, PA.

ATLANTA • CAMBRIDGE • CHICAGO • CLEVELAND • DALLAS

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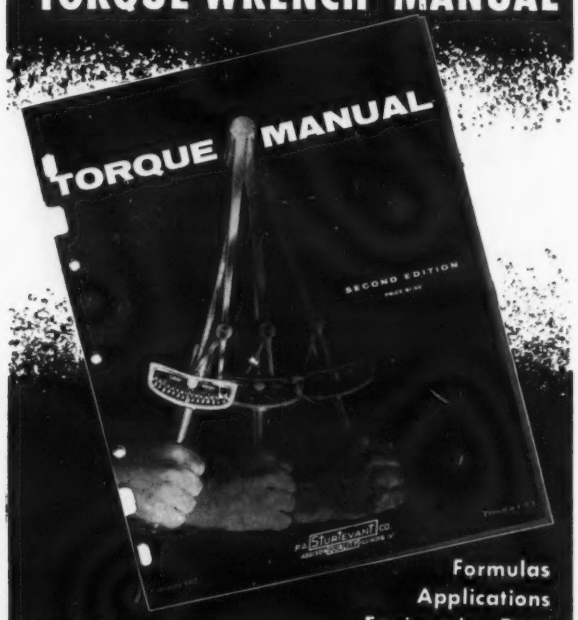
"TORQUE WRENCH" MANUAL



Formulas
Applications
Engineering Data
Screw Torque Data
Adapter Problems
General Principles

SENT UPON REQUEST

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

Manufacturers of over 85% of the torque wrenches used in industry

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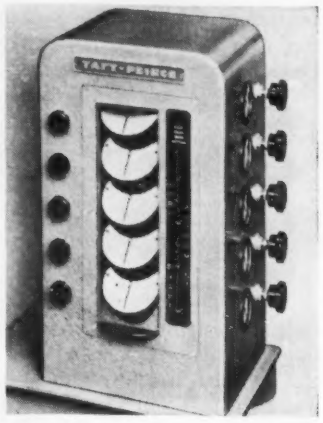
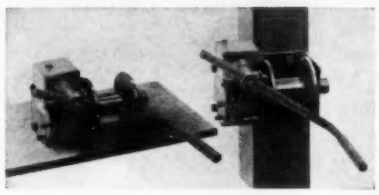
MULTIUNIT AIR GAGE
dials arranged to save space



Method of stacking air gage dials, plus compression of other elements into small areas, has made possible this compact multiunit air gage. Readings from five different points are shown on dials in a cabinet only 10¼ in. wide, 9 in. deep, and 18½ in. high. Dials are mounted vertically at a 45-degree angle to the panel, with the entire sweep of the indicator being visible. • **Taft-Peirce Mfg. Co.**, Woonsocket, R. I.

▲ For more details circle NED-451 L1 on enclosed inquiry slip ▲

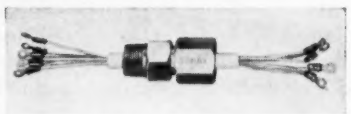
WORM GEAR WINCH
develops 1000-lb pull



With approximately 20 lb effort on the handle, this compact Model 46602 worm gear winch develops a 1000-lb pull. Gear ratio is 15:1, and maximum capacity is 1500 lb for the 14½-lb unit. Unit features a totally-enclosed, oil or grease-packed gear case which affords quiet, smooth movement of many types of suspended loads. Positive, automatic braking allows loads to be held in suspension at any point. Handle is adjustable in length. Unit is offered for either vertical or horizontal mounting. • **Thern Machine Co.**, 3760 W. Fourth St., Winona, Minn.

▲ For more details circle NED-452 L1 on enclosed inquiry slip ▲

ELECTRICAL LEAD SEALS
accept two to eight wires



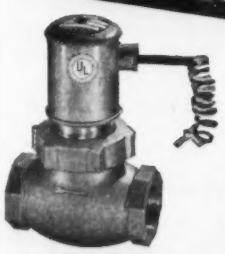
Two, four, six, or eight protective covered wires pass through the single or multiple hole ceramic insulator of this electrical lead sealing device, designed for a −40 to 450° F range. Insulator with wires is contained in a stainless steel gland which, when tightened, seals the assembly for up to 5000 psi. Selection of soft sealants increase fatigue strength and vibration resistance by reducing stress concentration at point of seal. Sizes from 9/16 to 1½ in. hex have ⅛ to ¾-in. IPS mounting threads. • **Conax Corp.**, 2300 Walden Ave., Buffalo 25, N. Y.

▲ For more details circle NED-453 L1 on enclosed inquiry slip ▲

Now . . . 7 Sizes of Gould

Solenoid Valves

bear this seal



They're Types Q and Q-1 in all these sizes:
⅜" • ½" • ¾" • 1" • 1¼" • 1½" • 2"

Fully Automatic • Normally Closed • Packless
2-Way • Piston-Pilot Operated • Bronze Body

TYPE Q General purpose for air and water at pressures from 5 to 400 psi; tempesatures to 250° F. . . . and steam at pressures to 15 psi; temperatures to 250° F.

TYPE Q-1 For steam at pressures from 5 to 150 psi, and temperatures to 365° F.

Coils of both types are guaranteed unconditionally for a full year

Write for FREE Bulletin on Our Full Line of Solenoid Valves!

TYPICAL USER NET PRICES • F.O.B. FACTORY

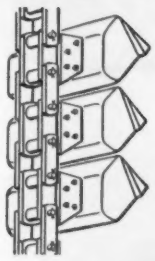
SIZE	TYPE Q		TYPE Q-1	
	1 to 5	100 to 499	1 to 5	100 to 499
⅜" or ½"	22.00	19.25	29.10	25.46
¾"	26.00	22.75	33.10	28.96
1"	35.00	30.63	42.10	36.84
1¼"	43.00	37.63	50.10	43.48
1½"	66.00	57.75	73.10	63.96
2"	84.00	73.50	91.10	79.71

J. D. GOULD CO. • 4707 MASSACHUSETTS AVE. • INDIANAPOLIS 18, IND.

GOULD SOLENOID VALVES VELVETROL

▲ For more details circle NED-454 L1 on enclosed inquiry slip ▲

NEW! Hooded back AC cast elevator buckets

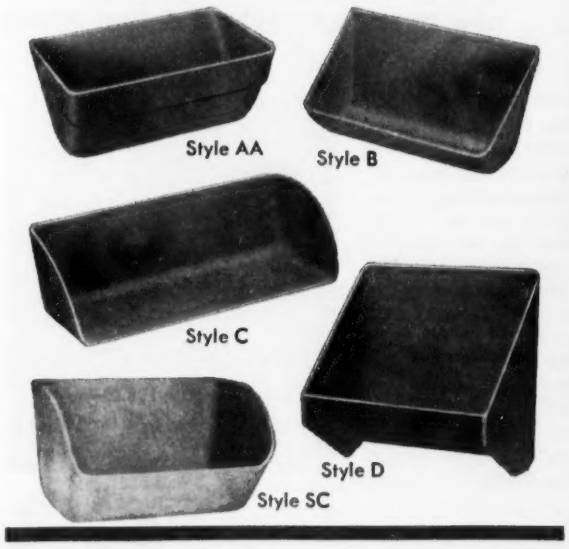


- Greater capacity
- Closer bucket spacing
- More effective discharge

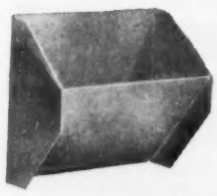
Here's the bucket for high-capacity elevating of cement, clinker, crushed stone and similar materials. *Hooded back* permits close bucket spacing for increased capacity per elevator. *High-front design* assures greater load per bucket. And *thick lip section* promotes long wear life . . . provides extra rigidity.

Link-Belt has malleable or Promal cast buckets for every material and capacity. Catalog 1050 has full details.

OTHER LINK-BELT MALLEABLE CAST BUCKETS



Link-Belt also offers STEEL fabricated elevator buckets



CONTINUOUS AND SUPER-CAPACITY CONTINUOUS — For use where high capacity at low speed is desired. Discharge is fast and clean.

"HS" HIGH SPEED — For high-speed elevating of large capacities. High ends minimize spillage . . . low lip facilitates pickup.

SALEM — Shaped for proper filling and free discharge of granular or powdered free-flowing materials. Ends are folded around the back for extra rigidity.

ALL LINK-BELT STEEL BUCKETS are of welded construction, formed of heavy-gauge steel. For complete information, contact your nearest Link-Belt office or authorized stock-carrying distributor. Or write for Catalog 1050. 15,382

LINK-BELT

ELEVATOR BUCKETS

LINK-BELT COMPANY: Prudential Plaza, Chicago 1, Ill.

▲ For more details circle NED-455 L1 on enclosed inquiry slip ▲

Write for "Stacker Bulletin"

AMERICAN MONORAIL

1116 E. 200th STREET
CLEVELAND 17, OHIO

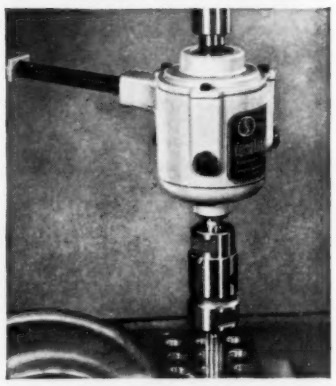
▲ For more details circle NED-457 L1 on enclosed inquiry slip ▲

EQUIP YOUR DRILL PRESS WITH A

Supreme VersaTAPPER

. . . new tapping attachment that gives more capacity . . . more production

The new Supreme VersaTAPPER is a drill press tapping attachment that offers maximum efficiency at lowest initial cost. It's the ideal tool for tapping all holes from No. 10 thru ½". (The full capacity range is 0 to ⅝".) Simple and safe to operate. Two models:—No. 6100 with straight shank for chucking; No. 6200 with Morse taper arbor. Both models include a Supreme Accutap Tap Chuck.



Ask your distributor for a VersaTAPPER demonstration. Write for literature.

$63 COMPLETE

SUPREME PRODUCTS CORPORATION

2222 S. Calumet Ave., Chicago 16, Ill.

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Cams and Camshafts

precision milled or ground

by the world's leading CAM manufacturer

Eonic is regularly supplying Landing Gear, Drum, Pump, Face, Cylindrical two and three dimensional Cams to manufacturers throughout the world.

Design Analysis and Engineering Services Available.

EONIC Inc. Engineers of Precision

Write for catalog and additional information

459-B E. Hollywood • Detroit 3, Michigan

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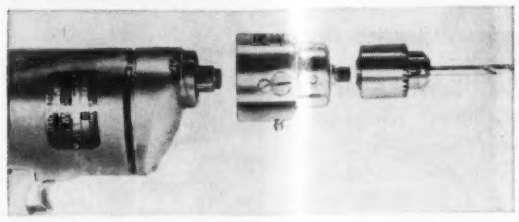
MASONRY DRILLING TOOL
fits standard electric drills

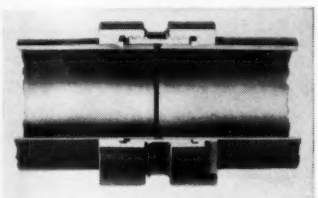
Impacto drilling tool for masonry and glazed tile has an eccentric that delivers four impacts for each revolution of the drill to which it is attached. It makes pos-



sible rapid drilling with a minimum of wear on carbide-tipped drills. The 1-lb tool fits all standard makes of industrial and heavy duty ¼, 5/16, and ⅜-in. electric drills. It can also be used as a conventional drill without disassembly. • **Impact Rotor Tool, Inc.,** Route 30 E., Irwin, Pa.

▲ For more details circle NED-460 L1 on enclosed inquiry slip ▲

PIPE & TUBING COUPLING
fast make-break type in ½-6 in. sizes

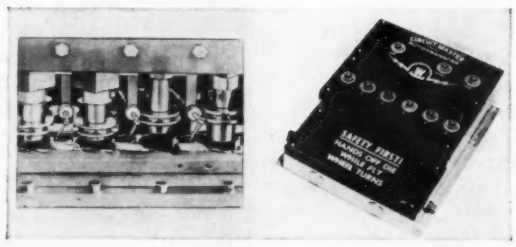


Fast make-and-break of connections in metal and plastic pipe and tubing is afforded by this Quikupl coupling. Actually a union in itself, the coupling provides straight-through, unrestricted flow. It consists of a cylindrical connector piece into which pipe, tube, or fitting ends fit. Nuts, which turn on large Acme external threads on the connector, draw the pipe or fitting ends against a gasket. Hand-tightened joints remain leakproof despite vibration and temperature variations. Pipe sizes from ½ through 6 in. are available. • **Cooper Alloy Corp.,** Valve & Fitting Div., Bloy Street & Ramsey Avenue, Hillside 5, N. J.

▲ For more details circle NED-461 L1 on enclosed inquiry slip ▲

MALFUNCTION INDICATOR
signal lights show failure of slide transfer machines

Failure of a die blank to transfer from one station to the next is detected by the Autotransfer, an electronic device for slide transfer machines. It signals the ex-

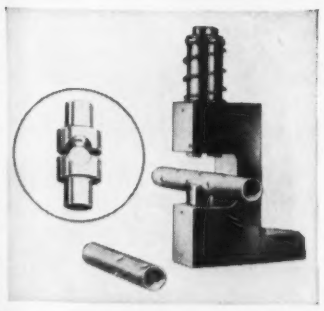


act location of the problem and shuts down the press automatically before damage can occur. Signal lights may be positioned on or off the press, or in a remote location. Audible alarms are also available.

Device automatically compensates for temperature changes, voltage fluctuations, and normal mechanical changes which may occur as the press warms up. Built-in auxiliary unit also protects machinery from stock buckling, end-of-material arrival, and misfeed. • **Industrionics Controls, Inc.,** Wintriss Controls Div., 20-24 Vandam St., New York 13, N. Y.

▲ For more details circle NED-462 L1 on enclosed inquiry slip ▲

TUBE PIERCING UNIT
has interchangeable tube retainers

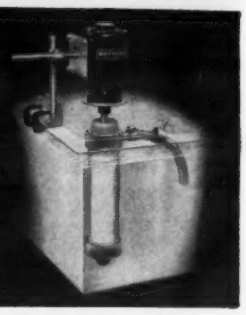


Improved tube-piercing unit features interchangeable tube retainers that facilitate quick change-over from one tube diameter to the next without disturbing setup in the press or on the template. With one press stroke, unit will perforate one hole only, or two opposed holes of the same or different diameter or configuration. Distortion is minimized by complete enclosure of tubing during perforating. Variations are available for hexagonal or oval workpiece shapes. • **Tool Products Corp.,** 377 Old Falls Blvd., North Tonawanda, N. Y.

▲ For more details circle NED-463 L1 on enclosed inquiry slip ▲

50 to 2,700 g.p.h. FILTER SYSTEMS

for universal applications
FILTERS TO 1 MICRON



Sethco filter pump units are recognized through the plating and chemical engineering fields as "the finest at lowest cost." Each unit is backed by the manufacturer's 1 YEAR GUARANTEE assuring you of superiority in materials and engineering. Send for your FREE catalog of Sethco filter pump units and see how Sethco "job-engineers" standard units to suit your application.

ECONOMY IN COST
ECONOMY IN OPERATION

Sethco's Submerged Filter Systems with work rate capacities of 50 to 200 g.p.h. and a maximum flow rate of 200 to 500 g.p.h. are designed for filtering every solution:
from lead to gold
from pH 0 to pH 14
from 70° F. to 200° F.

FREE!

Send for your Sethco M1 catalog of pumps and filter systems today. Complete, up-to-date, gives full specifications, applications, capacities, filter selection guide and prices.

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MAyfair 3-4220

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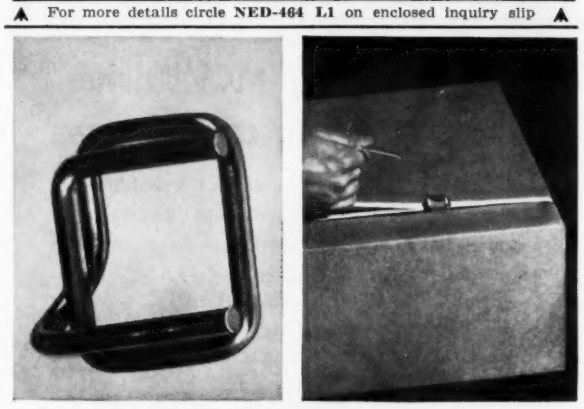

STRAP WITHOUT TOOLS
use AVISTRAP® cord strapping and new AVB one-piece buckle

Slip AVISTRAP Cord Strapping through the buckle, pull tight, and the job is done. There's never been a faster, simpler way of strapping. AVISTRAP will absorb shocks that break metal strapping, and the buckle fastener has very nearly the strength of the strap itself. You can work directly from the AVISTRAP coil without precutting. Packages that tend to settle can be retensioned. Buckles and strap can be reused. Buckles available for AVISTRAP in ¼" through ¾" sizes. Write for sample.

AVISTRAP CORD STRAPPING*

*PATENTS PENDING

INDUSTRIAL PACKAGING DEPARTMENT

American Viscose Corporation, 1617 Pennsylvania Boulevard, Philadelphia 3, Pa.

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...the new ideas are from WARNER ELECTRIC

new
Warner
Electro-Pack
Clutch-Brake Drive

New "package drive" puts automatic cycling on machines *without* engineering or machining!

Preassembled . . . prealigned . . . just bolt it down and wire it up! This Warner fractional hp clutch-brake unit is assembled complete—ready to couple to input and output shaft. No costly engineering. No time-consuming machining! *Lightweight and compact,* the Electro-Pack delivers high-cycle performance with high heat dissipation. Sturdy bearings run cooler under all conditions. *Standard Warner units* available all over the world make up this new Electro-Pack. Service is simple, fast.

WRITE TODAY FOR FULL DETAILS!

WARNER ELECTRIC

Warner Electric Brake & Clutch Co., Beloit, Wisconsin

Stocked by Distributors in Principal Cities Throughout the World.

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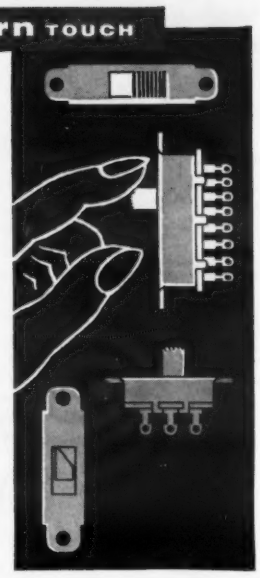
STACKPOLE

S-L-I-D-E SWITCHES

FOR THE Modern TOUCH



Inexpensive . . . easy to use . . . these tiny, dependable switches bring new operating convenience and sales appeal to modern electrical products. They're available in over 15 basic types—the most complete line — with ratings and features to match your requirements.

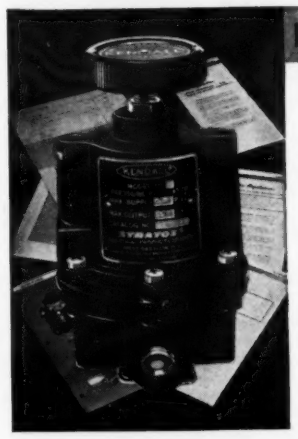
- ½- to 6-amp. U.L. Ratings
- 9 Attractive Knob Colors
- 1 to 4 Positions
- 1 to 3 Poles
- Maintained or Momentary Contact
- Pushbutton-operated Types
- Lug or Printed Wiring Terminals

low cost SNAP SWITCHES

Sturdy, low-cost snap action switches for pushbutton assemblies, record players, etc. 1-6 amp U.L.I. ratings.

For Details, write, *Electronic Components Division*
STACKPOLE CARBON CO., St. Marys, Pa.

For more details circle NED-467 L1 on enclosed inquiry slip



KENDALL/GOVERNAIRE

SEND FOR CATALOG ON

PRECISION AIR REGULATORS

Large balanced supply and relief valves provide rapid response with precise control plus maximum flow for minimum size.

Kendall is a direct acting, spring actuated, bleed type valve. Governaire is pilot assisted. Both lines have a unique boost action with increased flow rate that offsets downstream pressure losses. Both are immune to supply pressure variations and suited to either high-flow or dead-end applications. With the Kendall/Governaire lines, Stratos offers the largest selection of standard and special precision pressure regulators, relays and volume boosters in the industry.

For your copy of the Stratos Engineering Manual and Data Sheets illustrated above, write

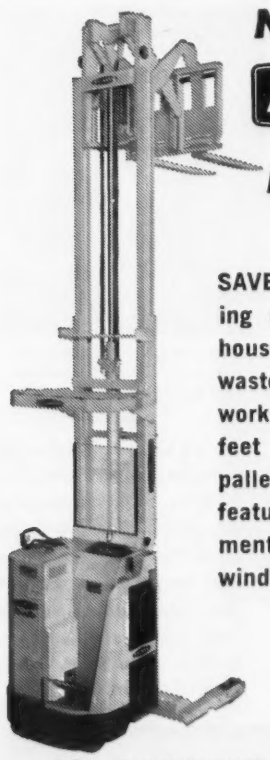
STRATOS®
A DIVISION OF FAIRCHILD ENGINE & AIRPLANE CORPORATION
Route 109, West Babylon, L. I., New York

For more details circle NED-468 L1 on enclosed inquiry slip

NEW

RAYMOND®

Narrow Aisle Reach-Fork®



SAVES YOU THE COST of building or leasing another warehouse. Reach-Fork eliminates wasteful 10- and 12-foot aisles; works in aisles as narrow as 6 feet using present racks and pallets. NEW Reach-Fork model features 40 important improvements including new "picture window" visibility. 2,000 and 3,000 lb. capacities. Send for bulletin.

The RAYMOND CORPORATION
4152 Madison St., Greene, N.Y.

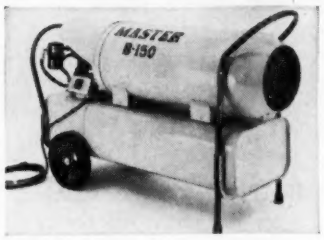
For more details circle NED-469 L1 on enclosed inquiry slip

FLUID FLOW REGULATOR
has 0.3 to 1.5-gpm range

Restrictor-type flow regulator designed for 10 to 100-psi hydraulic circuits is adjusted by an external knurled knob for flow rates from 0.3 to 1.5 gpm. Linear reference scale is stamped on the stationary sleeve. Set point is locked in position with a knurled nut located on the stem. Flow can be regulated to within ±2 per cent of flow setting, regardless of variations in system pressure. Constructed of stainless steel and anodized aluminum, regulator operates in a −65 to 275° F range. It measures 4⅞ in. high. • **Fluid Regulators Corp.**, 313 Gillette St., Painesville, Ohio.

For more details circle NED-470 L1 on enclosed inquiry slip

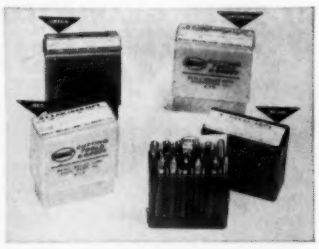
PORTABLE HEATER
delivers 150,000 Btu per hour



Circulating warm air is delivered at a rate of 150,000 Btu per hour by Model B-150 portable heater, used to warm workers, heat cold engines and repair sheds, spot heat indoor and outdoor areas, thaw frozen water lines, or dry materials. The 80-lb, easily wheeled unit operates on 115 v ac and can be used indoors unvented. Optional automatic thermostatic control both turns on the fan and ignites the fuel. • **Master Vibrator Co.**, 1752 Stanley Ave., Dayton 1, Ohio.

For more details circle NED-471 L1 on enclosed inquiry slip

FLUTED TAPS
color-keyed packages aid selection



Re-usable polyethylene containers for Besly taps are now color keyed to simplify selection. Straight fluted taps are packaged in orange colored boxes; spiral pointed taps, in green boxes; Besly X-Press taps, in blue boxes; whereas red packages are reserved for special taps. Tap user need only know the material to be tapped and the four colors to choose the exact tap by size, pitch, pitch diameter, and order number from a tap selector booklet. Also contained in the booklet is a trouble shooting chart for various tapping problems. • **Besly-Welles Corp.**, South Beloit, Ill.

For more details circle NED-472 L1 on enclosed inquiry slip

RAYMOND®

New Pallet Handbook

FREE 16-page booklet tells how to select, load and handle pallets; how to estimate pallet requirements; plus ways to increase your present warehouse capacity as much as 50%. Send for your free copy today!

The RAYMOND CORPORATION
4124 Madison St., Greene, New York

For more details circle NED-473 L1 on enclosed inquiry slip

VITAL ASSEMBLY TOOL

TOUCH-n-HOLD
FINGER TIP WRENCHES

Using only one finger, picks up and fastens tiny nuts and bolts into those hard-to-reach places; standard set: 1/4", 5/16", 11/32", 3/8" (across flats).
Available at your local dealer or order direct from factory.
Phone 516 NA 8-2750
Patented & Patents Pending

GT GORDON TOOL MFG. CO., INC.
P.O. BOX 611N BAYVILLE, L. I., N.Y.

For more details circle NED-474 L1 on enclosed inquiry slip

ponbake

The long-life coating available only on Blaw-Knox Grating. No finish on grating will wear forever. But the exclusive Ponbake finish that is available on Blaw-Knox Electroforged® steel grating lasts longer than any other.

Bang it with a hammer. Bombard it with crushed stone. Immerse it in acid and alkali solutions. You won't hurt it. We know because we have tried them all.

Ponbake, a new epon base, high polymer synthetic paint process developed by Blaw-Knox especially for grating, stays factory new almost regardless of the treatment it gets—and it costs less than on-the-job painting.

Want to know more? Write for complete information or ask for a Blaw-Knox grating salesman to show you a sample of Blaw-Knox grating coated with Ponbake.

Free Facts on Grating. Write for Bulletin No. 2581. Blaw-Knox Company, Pittsburgh 38, Pennsylvania.

BLAW-KNOX GRATING

For more details circle NED-475 L1 on enclosed inquiry slip

RAYMOND®

Walkie Stacker®

Low-cost stacker tiers 2,000 lb. loads more than 10 feet high from aisles as narrow as 5 feet. Only 25½" longer than load. 24 volt power for faster lift and travel. Offers three speeds forward or reverse. Send for bulletin.

The RAYMOND CORPORATION
4126 Madison St., Greene, New York

For more details circle NED-476 L1 on enclosed inquiry slip

FLAMELESS BLOW TORCH

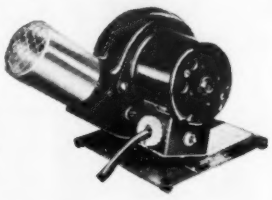
FOR QUICK HEAT UP TO 1000° F.

For applications requiring quick concentrated heat blast up to 1000° F. without flame. Soften, form, mold and patch plastics, etc. Temperature varied by air intake adjustment. 110-230 V. AC-DC motor, 3 wire plug. All 110 V. models equipped with adapter for 2-prong receptacle. 8 ft. heavy duty cord. Intermittent duty.

Other models available with lower temp. ranges

Most of the big names in industry use MASTER in laboratories or in production. Model HG 501 500° F. 115 V.—$41.25 (Others $37.25 to $62.75)

AIR HEATER BLOWER



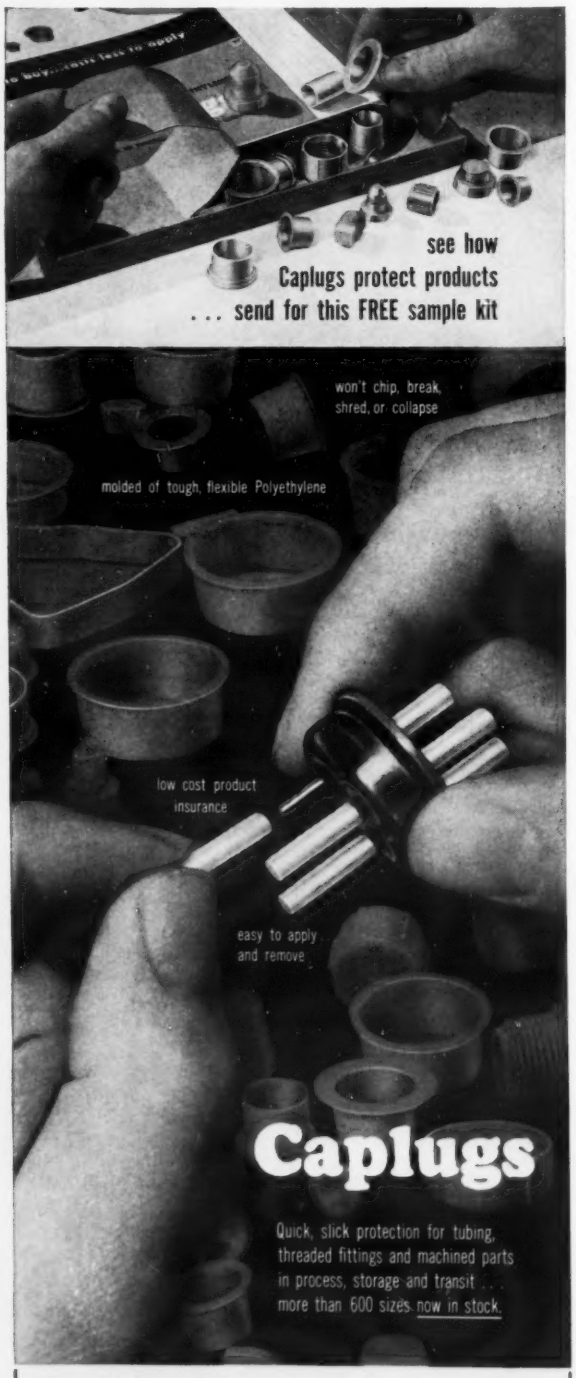
For quick electrically heated air up to 750° F. For accelerating drying processes or for localized heating. B.T.U. 3400. Air velocity 2000 FPM. 110-230 V. AC only, 3 wire plug. All 110 V. models equipped with adapter for 2-prong receptacle. 8 ft. heavy duty cord. Continuous duty. 2" dia. x 3" long discharge nozzle.

Model AH 501 500° F. 115 V.—$55.35 (Others $52.25 to $83.25)

Write today to Dept. 91-K.

MASTER Appliance Corp., Racine, Wisconsin

For more details circle **NED-477 L1** on enclosed inquiry slip



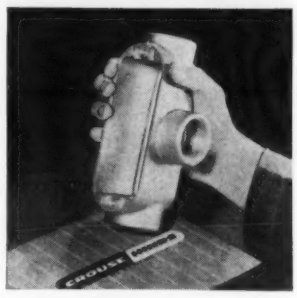
CAPLUGS DIVISION, PROTECTIVE CLOSURES CO., INC.
2209 Elmwood Ave., Buffalo 23, N. Y.

MAIL a free assortment of Caplugs, literature and prices to us, without obligation.

Name_____
Title_____
Firm_____
Address_____
City_____ Zone____ State_____

For more details circle **NED-478 L1** on enclosed inquiry slip

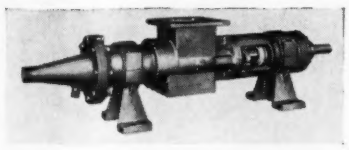
CONDUIT FITTINGS redesigned with more wiring room



Made of aluminum alloy, the Mark 9 line of Condulet fittings resists both chemical and galvanic corrosion encountered in chemical, petroleum, and other corrosive applications. Improvements in the redesigned line include more internal room for easier wiring, self-retaining cover screws, long hubs for firm wrench grip, taper tapped threads for rigid joints, and an integral bushing for easy conductor pulling. Die-cast, copper-free units with neoprene gaskets are made in various types and sizes from ½ to 4 in. They are UL-listed and CSA-approved. • **Crouse-Hinds Co.**, Dept. OS, Syracuse 1, N. Y.

For more details circle **NED-479 L1** on enclosed inquiry slip

DRY POWDER PUMP conveys through enclosed pipe



Runs of 200 ft or longer and vertical lifts of more than 75 ft are possible when using the Moyno progressing cavity pump to handle flour, powdered metals, clays, starches, and other dry materials. They are conveyed through a totally enclosed piping system at a rate as high as 24,000 lb per hour. Pump furnishes a continuous, uniform flow suitable for metering purposes. Fluidizing hopper used on most applications imparts flow characteristics by injecting air into the powder being sucked into the pump, and air in the fluidizing chamber keeps materials flowing into the rotor-stator elements. • **Robbins & Myers, Inc.**, Moyno Pump Div., 1345 Lagonda Ave., Springfield 99, Ohio.

For more details circle **NED-480 L1** on enclosed inquiry slip

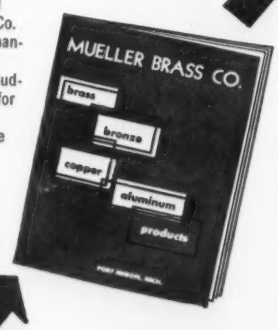
SIX-SPEED GEARMOTOR ratios can be changed while running

Built to a standard NEMA Size 25 frame, this six-speed instrument gearmotor combines a gearhead with a synchronous motor from 600 down to 1 rpm. Speed ratios in standard models are 1:1, 2:1, 5:1, 10:1, 20:1, and 50:1, and can be changed while the motor is running. Standard units are built for 115-v, 60-cycle ac operation, but special units for temperature extremes, high torque, dynamic braking, other voltages, and quick reversal can be specified. • **Insco Co.**, Hollis Street, Groton, Mass.

For more details circle **NED-481 L1** on enclosed inquiry slip

THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.



314

Please send me Mueller Brass Co. Manual No. FM 3017.

Name_____
Firm_____
Address_____
City_____ State_____

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

CONTROL COSTLY PIPE MOTION

Flexonics

METAL HOSE

Your Flexonics distributor is a "Pipe Motion Specialist." Let him analyze your pipe motion problems, make recommendations that minimize equipment maintenance, prolong its life. He has a large inventory of standard hose and fittings . . . is equipped to fabricate complete assemblies to your specifications.

For fast, dependable local service call your

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Write for your free copy—FLEXONICS METAL HOSE CATALOG.

FLEXONICS
DIVISION OF CALUMET & HECLA, INC.
362 East Devon Ave., Bartlett, Ill.

For more details circle **NED-482 L1** on enclosed inquiry slip

NOW!

REMOTE CONTROL VARIAC® Autotransformers and **REMOTE MONITOR** the Output Voltage with the **NEW** Type 1590-A Remote Control

This Remote Control is a servo which:

- Holds the output voltage from the remote VARIAC to whatever voltage is set to the meter reading on the Control
- Monitors the output voltage on this meter
- If the line voltage to the Remote Control is held constant, the remote VARIAC is a source of continuously-adjustable **regulated** voltage, with fast correction speed
- Has a built-in circuit breaker to protect it from possible damage

Available for all W-Type motor-driven VARIACS, for single or ganged units. **Price: $95.00**

Write for "Remote-Controlling VARIAC® Autotransformers"

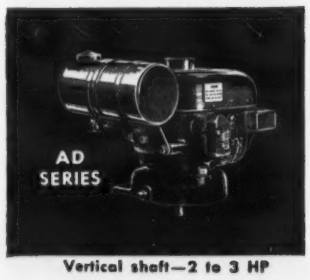
GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. **NEW YORK AREA** 1000 N. Seward St. **LOS ANGELES 38** 8055 13th St., Silver Spring, Md. **WASHINGTON, D. C.** 1150 York Road, Abington, Pa. **PHILADELPHIA** 1186 Los Altos Ave., Los Altos, Calif. **SAN FRANCISCO** 6605 W. North Ave., Oak Park, Ill. **CHICAGO** In **CANADA**: 99 Floral Parkway **TORONTO 15**

For more details circle **NED-483 L1** on enclosed inquiry slip

ANY PRODUCT IS BETTER WITH CONTINENTAL RED SEAL POWER

Horizontal Shaft. Also available with 6:1 gear reduction (AR Series)—2 to 4 HP



Vertical shaft—2 to 3 HP

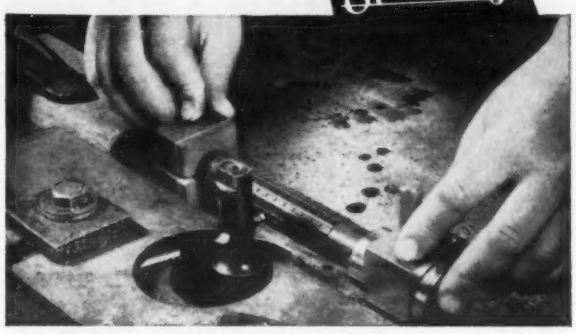
. . . because Continental air-cooled engines are built up to a standard of excellence, not down to a price. Their rugged design and construction assures long dependable service with minimum down-time. Backed by a world-wide service organization.

Continental Motors Corporation
INDUSTRIAL AIR-COOLED ENGINE DIVISION
12800 KERCHEVAL AVENUE • DETROIT 15, MICHIGAN

Powerful as the Nations — CONTINENTAL MOTORS — AMERICA'S STANDARD ®

For more details circle **NED-484 L1** on enclosed inquiry slip

YOUR FABRICATING IS IN GOOD HANDS AT . . . Spaulding



Spaulding Materials include:
Vulcanized Fibre for Industry
Spauldite (Laminated Plastics)
Armite (Thin Insulation)
Spauldo (Rag Paper)
Fibre Board
Resin Board
Spaulding T (Transformer Board)

That's why so many manufacturers use Spaulding's Fabricating Services for the Spaulding Materials listed at left. The advantages of skilled machinists who are completely familiar with these materials, design engineering help using Value Analysis to insure optimum quality and cost control, positive adherence to specifications and prompt delivery can mean better components for **your** products, too.

Use the inquiry card for full information.

SPAULDING FIBRE COMPANY, INC.
310 Wheeler Street
Tonawanda, New York

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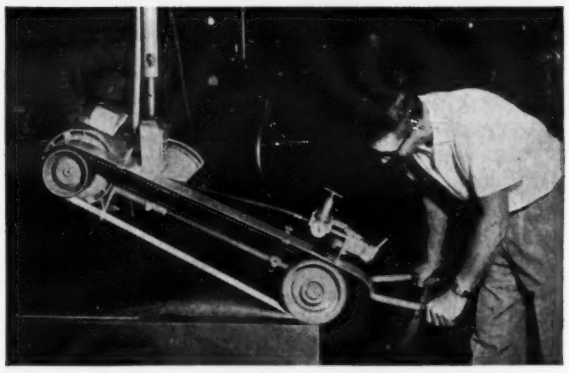

AN ALL AROUND PERFORMER

Here's a new Medium Duty Belt Grinder, a happy medium in size, low in cost . . . yet powerful enough to handle most grinding jobs. Powered by a 3 H.P. or 5 H.P. motor, grinder has a 90″ long abrasive belt with 8″ dia. contact wheel. Positive air tensioning of abrasive belt. The size of this versatile unit makes it ideal where space is a problem. Standard accessories adapt grinder for floor stand, swing frame or lathe mounting. Write for Bulletin No. 116.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
2530-J WINTHROP, INDIANAPOLIS 5, INDIANA

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SAVE ON FREIGHT ELEVATORS

Rotary® Oildraulic® Elevators

Dependable hydraulic power is applied directly to the load for maximum efficiency and dependability. No cables to replace, no overhead machinery penthouse or load-supporting sidewalls. Thus, lower installation costs, lower operating costs. Capacities to 100,000 lbs. or more. Write for catalog.

DOVER CORPORATION, *ELEVATOR DIVISION*
1030 Kentucky, Memphis 2, Tenn., Chatham, Ontario

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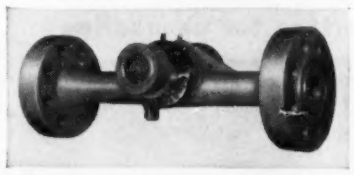
STEEL SHELVING assembled without tools

Uprights, shelves, and shelf supports are basic parts of rapidly assembled Quik-Lok steel shelving. A section, such as the one shown, is assembled in a few minutes without fasteners or tools. Shelf supports lock into slots in inner faces of uprights to provide front and back support. Optional parts afford a variety of arrangements for open, closed, and bin type shelving. • **Aurora Steel Products Co.**, 153 Third St., Aurora, Ill.

▲ For more details circle **NED-488 L1** on enclosed inquiry slip ▲

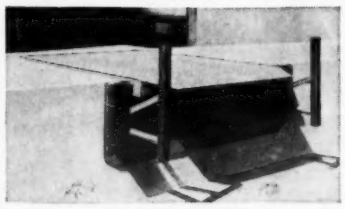
HIGH PRESSURE FLOWMETER measures gas or liquid flow



Rated at 5000 psi, the 2-in. Whirl-Flo flowmeter affords an accurate means of measuring gas or liquid flow in many processes. It uses the vortex velocity principle of measurement. Rotation of the rotor is transferred by magnetic couplings for presentation as flow rate and/or integrated flow signal. Flow range and capacity depend on fluid density and viscosity, plus degree of accuracy required without applying calibration factors through an adjustable internal bypass. Wide variety of readout devices is available, including a simple water meter totalizer, complex multiple compensated integrators, and transducers which feed into electronic computers and telemetering transmitters. • **Rotron Mfg. Co.**, Schoonmaker Lane, Woodstock, N. Y.

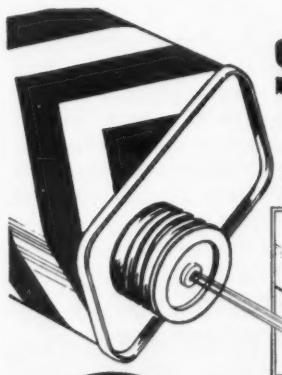
▲ For more details circle **NED-489 L1** on enclosed inquiry slip ▲

AUTOMATIC DOCK LEVELER with 20,000 lb capacity



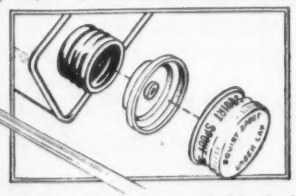
Fabricated of steel, the truck-actuated Doklevler is an automatic, self-contained unit with capacity of 20,000 lb. It provides a height differential of 15 in. above to 8 in. below, and when not in use, lies flush with dock flooring for cross-over vehicle traffic. The dock leveler has permanently sealed, lubricated bearings for heavy-duty service. • **Magnesium Co. of America**, 155 S. E. Tenth Ave., Hialeah, Fla.

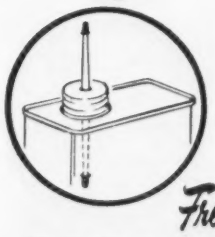
▲ For more details circle **NED-490 L1** on enclosed inquiry slip ▲



Polyethylene
Squirt-Spout Under Cap

The cap automatically installs the Squirt Spout--using your present method.





For Charcoal Lighter Fluid, Auto Polish, Insecticide, or any other screw neck application calling for dispensing in a stream. 1″ diameter screw cap only.

Also, reversible spout in cap--1″ and 2″ lengths. 1″ diameter screw cap only.

Freund Can Company
157 W. 84th Street • ABerdeen 4-4230 • Chicago 20, Illinois

FREUND CAN COMPANY Date_____
157 W. 84th Street
Chicago 20, Illinois
Please send me samples and quantity prices of--☐ Squirt Spout Under Cap; ☐ Reversible Spout in Cap.
YOUR NAME_____
ADDRESS_____

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BREAK PROFIT BARRIERS

with new, wider
TIME-SAVING ABRASIVE APPLICATIONS
Simultaneously* BURR • CLEAN • FINISH • POLISH *on* Metals • Wood • Glass • Fiberglass • Laminated Materials Some Plastics, *with Rubber-Cushioned BRIGHTBOY

YOU MUST SEE BRIGHTBOY'S EXCEPTIONAL ACTION ACHIEVED BY *ABRASIVE AND RUBBER, functioning simultaneously*, to appreciate its almost unbelievable *ability and adaptability. Saves as much as 50% in time over older, costlier methods!*

JOB-MATCHED, TIME-&-MONEY-SAVING STOCK SIZES AND TEXTURES. Immediately available wheels, sticks, rods, blocks and points for machine and manual production. Wide choice of Silicon Carbide and Aluminum Oxide abrasive grains impregnated in rubber binders, soft to tough.

WRITE US YOUR WORK REQUIREMENTS. GET OUR METHODS & APPLICATIONS DATA; comprehensive list of job-matched stock items; attractive prices; the Brightboy Catalog-Manual

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WELDON ROBERTS RUBBER CO.
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America's Pioneer Manufacturer of Rubber-Bonded Abrasives

WELDON ROBERTS **Brightboy** RUBBER CUSHIONED ABRASIVES

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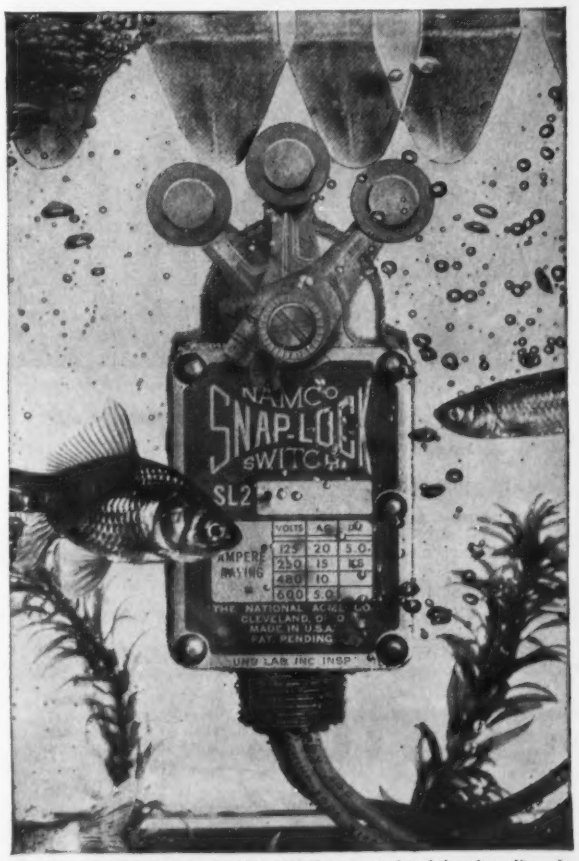
Take a close look at this new limit switch! It's so immune to moisture, we'll guarantee it, electrically and mechanically, for one year or 10,000,000 operations... whichever comes first. We call it our Super-Sealed SL2-T. If you've ever had limit switch trouble caused by water, soluble oils, condensate or *any* kind of moisture, you'll want complete details. Call, write or wire. **National Acme**

THE NATIONAL ACME COMPANY
182 E. 131st STREET
CLEVELAND 8, OHIO

Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.



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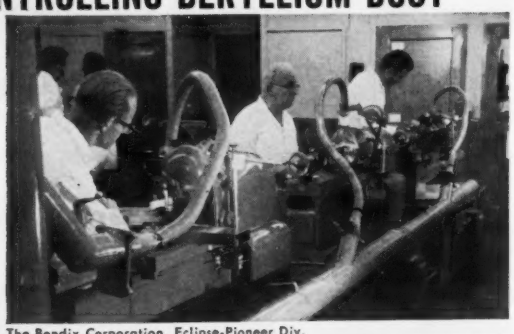
CONTROLLING BERYLLIUM DUST



The Bendix Corporation, Eclipse-Pioneer Div.

. . . Another Tough Task Made Easier and Safer by SPENCER VACUUM

Toxic nature of its dust makes beryllium a "problem" metal to machine. But not here! Spencer vacuum, piped into a specially designed "clean room", picks up the dust directly at the machines . . . whisks it away to filter-equipped separators outside the building. Result: machining is quicker, safer, easier.

Request Catalog No. 1558, "Spencer Vacuum", or write for recommendations on your particular problem.

The SPENCER TURBINE COMPANY HARTFORD 6, CONNECTICUT

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BOSTON Gear QUALITY

14½° stock gears 20°

Design around gears you can get today
Largest selection – off the shelf

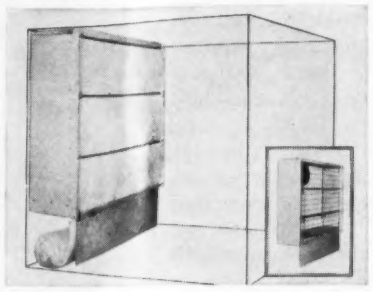
1781 types and sizes 14½° P. A. – 48 to 3 pitch.
782 types and sizes 20° P. A. – 120 to 4 pitch.
Spur, bevel, miter, spiral miter, worm, helical, rack, pinions, internal.
Brass, steel, iron, nonmetallic. See Catalog 57.
IN STOCK at your nearby DISTRIBUTOR

BOSTON Gear®

© Boston Gear Works, 1961
Quincy 71, Mass.

▲ For more details circle NED-496 L1 on enclosed inquiry slip ▲

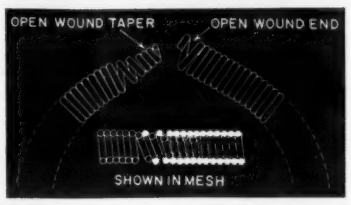
PAINT OVERSPRAY FILTER
roll type media is easily changed



Various sizes of the Paintstop spray painting overspray filter are readily adaptable to existing standard dry booths. They can also be used in other standard booths or in tunnel type booths. Standard or heavy duty media used is furnished in roll form and is pulled up, cut off, folded, and disposed of easily. Filter can be used with varnishes, lacquers, and enamels, and can be equipped with polyurethane or any of several fibrous materials. It has no moving parts in operation. • **E. F. Vilter Co.**, 3525 N. Palmer St., Milwaukee 12, Wis.

▲ For more details circle NED-497 L1 on enclosed inquiry slip ▲

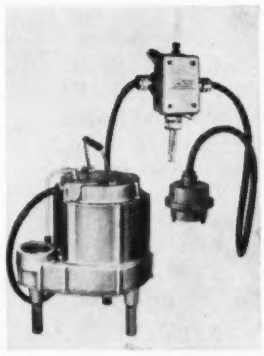
GARTER SPRINGS
coil ends interlace for connection



Compression and extension garter springs, available in a range of sizes, feature an interlock end which effects an interlacing of the coil ends to prevent distortion of the connection. The outside coil diameter is maintained across the joint. Connection retains flexibility and withstands stresses that cause deformation of the spring. Extension types exert uniform tension throughout 360 degrees, as required for holding oil seals, and compression types maintain precise circumferential dimensions required for tight-envelope assemblies. Applications include diaphragms, drive belts, brush holders, clutch segments, retainers, expanders, connectors, and O-rings. • **Associated Spring Corp.**, 18 Main St., Bristol, Conn.

▲ For more details circle NED-498 L1 on enclosed inquiry slip ▲

SUBMERSIBLE SUMP PUMP
delivers 8600 gph at 5-ft head



Variable turn-on control featured by Model 139-VTO heavy-duty nonclogging submersible sump pump eliminates frequent pump cycling and allows removal of measured amounts of liquid. Equipped with a ½-hp motor, nonclog impeller, and 2-in. NPT discharge, pump will deliver 8600 gph at 5-ft head and 6900 gph at 10-ft head. Package includes watertight junction box, gasketed cover, watertight power cord, and 100 ft of polyethylene tubing to accompany the feeder cable to the power source for moisture-free breather action. Leg supports accommodate ½-in. nipples or threaded ½-in. pipe of any length. Pump can be used to control liquid flow and supply in storage tanks, effluent disposal, or in industrial fluid transfer. • **American Crucible Products Co.**, Kenco Pump Div., 1305 Oberlin Ave., Lorain, Ohio.

▲ For more details circle NED-499 L1 on enclosed inquiry slip ▲

TRANSISTOR CHECKER
has self-contained power supply

All general purpose, audio, RF, low power, and switching transistors of both NPN and PNP types can be tested by the Model 29 transistor checker. It checks ratings; indicates shorts, opens, and defective units; shows excessive leakage, low or high gain, and erratic operations; and predicts failure. The 6¼ x 3¾ x 2¼-in. instrument has a self-contained 4.5-v dc power supply, two-way linear and triangular socket and pin tip jacks for plug-in test clips, and a double-graduated microampere meter. Price is $69. • **Instant Circuits Corp.**, Terminal Drive, Plainview, L. I., N. Y.

▲ For more details circle NED-500 L1 on enclosed inquiry slip ▲

TYGON® Airless Spray VINYL

. . . cuts painting costs 30% to 50%

Resists acids, alkalies, oils, greases, water and alcohols. Can build a film thickness up to 20 mils if desired, but usually only 6-10 mils required. Dries to touch in 10-15 minutes. Write for Technical Data Sheet "AV."

87-H

Coatings and Linings Division

U. S. STONEWARE
AKRON 9, OHIO

▲ For more details circle NED-501 L1 on enclosed inquiry slip ▲

The Spee-Flo Company

Announcing A Most Significant Patent Grant For The Finishing Industry!

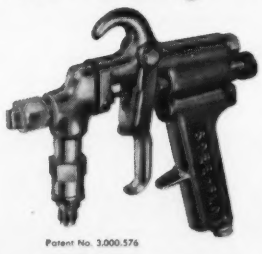
UNITED STATES PATENT NO. 3,000,576

has been issued on the H-GUN — the invention that produces quality Airless Finishing . . .

What it Is
The H-Gun principle utilizes a small, specially designed pre-orifice in combination with the airless spray tip. Only Spee-Flo can offer this patented exclusive feature.

What it Does
The H-GUN produces a full feathered spray pattern with total atomization. It provides complete spray gun control eliminating flooding and "tails". This is essential for quality finishing.

What it Means to the User
The H-GUN produces quality airless finishing to the most exacting requirements. The H-Gun and the Spee-Flo HydraAirless will produce time and material savings averaging 30%. The H-GUN is used by leaders in the wood and metal products manufacturing, maintenance and construction industries. Write the Spee-Flo Company for documented reports of successful installations in your industry.



Patent No. 3,000,576

6614 Harrisburg Blvd. The Spee-Flo Company THE GUN Houston 11, Texas

▲ For more details circle NED-502 L1 on enclosed inquiry slip ▲

more control less piping with NEW 3000 PSI PIGGY-BACK VALVES

Racine Components — the Hydraulic Hearts of fluid power systems

Check these design advantages of Racine's new 4-way Directional Control Valves:

FULL PRESSURE at all ports, including drain.
INTERNAL DRAIN AVAILABILITY means less piping.
3000 PSI RATING on these streamlined, dustproof valves provide greater design applications.
SMALLER SOLENOIDS offer more compact design that can result in reduced installation costs for complete systems.
Design conforms to J. I. C. standards.

3 SIZES: ⅛" ⅜" ¾"

RACINE

RACINE HYDRAULIC & MACHINERY, INC.
Racine, Wisconsin • Hydraulic Division

▲ For more details circle NED-503 L1 on enclosed inquiry slip ▲

NEW JUNIOR SIZE VIBRA-WASHER

The new Simplicity Junior Size Vibra-Washer employs a vibrating work carrier that automatically conveys metal parts through a cleaning or conditioning bath. It cleans so thoroughly that chips, oil and grease are removed from even blind or slotted openings; cleans so gently even the most delicate threads or flanges are not harmed.

If you have a tough cleaning or conditioning job, Simplicity Engineering Company can help. For information, write or call the Industrial Washer Division.

223

Simplicity TRADE MARK REGISTERED

ENGINEERING COMPANY • DURAND 15, MICH.

FOR CANADA: Simplicity Materials Handling Limited, Guelph, Ontario

▲ For more details circle NED-504 L1 on enclosed inquiry slip ▲

PORTABLE HONES

SAVE MANY HOURS IN PRODUCTION, SALVAGE, JOB LOT, MAINTENANCE AND TOOL ROOM

More than 100,000 satisfied users testify to the utility of these "Tools of a Thousand Uses" for internal diameter work in nearly all materials.

Sunnen Portable Hones are guaranteed to produce geometrically round, straight bores—accurate within .0005"—with any desired cross-hatched, lubricant-retaining finish.

- CORRECTS MACHINING ERRORS
- EXACT SIZE CONTROL
- CONTROLLED SURFACE FINISH
- FASTEST STOCK REMOVAL
- POSITIVE ADJUSTMENT
- PORTABLE, YET RUGGED
- OPERATES IN ANY POSITION

Your Sunnen Field Engineer will be glad to help you solve your sizing problems at no obligation to you.

SN-75 Midget Hone	Range 1¾" to 2"
JN-95 Junior Hone	Range 2" to 2⅝"
AN-112 Standard Hone	Range 2½" to 7"
AN-812 Heavy-Duty Hone	Range 4¾" to 20½"

WRITE FOR FREE BOOKLET!

Find out how SUNNEN PORTABLE HONES can help you in your everyday shop work.

SUNNEN® PRODUCTS COMPANY

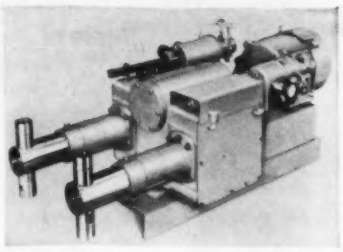
HONING

7933 Manchester Ave. • St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario

7269

▲ For more details circle NED-505 L1 on enclosed inquiry slip ▲

PROPORTIONING PUMPS
control system adjusts capacity while pump is in operation

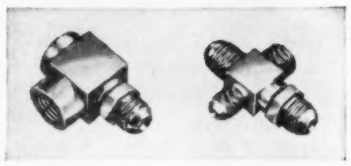


Controlled volume pumping of chemical solutions, slurries, and liquefied gases is provided by Strokontrol proportioning pumps, offered in maximum capacities from 1.83 to 1472 gph, for pressures to 6500 psi. A totally enclosed hypocycloidal arrangement of gears provides power transmission and capacity adjustment from zero to 100 per cent while operating. Metering accuracy is within ±0.5 per cent.

Units are driven by standard electric, rotary air, or variable speed drives and do not require auxiliary gear reducers. A single pump with motor can drive one to four liquid ends which vary in size and construction material. Timing controls are also available for single injection of a controlled liquid volume during any given period from 1 sec to 8 days duration. Gear system runs in a pressurized oil bath. • **Jaeco Pump Co.**, Villanova, Pa.

▲ For more details circle NED-506 L1 on enclosed inquiry slip ▲

HYDRAULIC FITTINGS
for custom hydraulic manifolds



Each fitting in the Maniport MK Series is equipped with a standard female Flodar port (straight thread port with coinable metal-to-metal seat) on one end and a male swivel head fitting opposite. Design makes it possible to screw a series of the cross, tee, and elbow fittings together to form a manifold. Each fitting also has tube and hose outlet fittings for piping into and out of the manifold. Ten combinations of male and female pipe, flare, and Flodar self-flare outlet connections are available, as are blind and bulkhead fittings. Eleven fitting sizes from ⅛ to 2 in. withstand up to 20,000 psi without leakage. All are reusable. • **Flodar Corp.**, 16911 St. Clair Ave., Cleveland 10, Ohio.

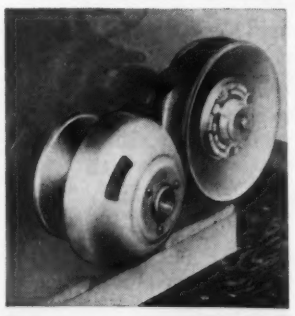
▲ For more details circle NED-507 L1 on enclosed inquiry slip ▲

ELECTRIC HEATER-BLOWER
provides high velocity 1000° F heat

Tool-size Heat Jet electric heater with built-in blower delivers a stream of hot air for drying, thawing frozen parts, molding or softening plastic materials, welding, fusing, heat sealing, and soldering. Several pistol grip models provide air at up to 1000° F. Normal air velocity is 3000 fpm from a 1½-in. diameter nozzle. Adjustable air intake cover regulates temperature and air velocity within a limited range. Blowing of unheated air is also possible. Operation is on 115 v ac, with 220-v units optional. • **Milwaukee Lock & Mfg. Co.**, 5048 N. 37th St., Milwaukee 9, Wis.

▲ For more details circle NED-508 L1 on enclosed inquiry slip ▲

TORQUE CONVERTER
for 3 to 7½-hp gasoline engines



Controlled tension between drive and driven pulley, throughout the entire operating range, is provided by the belt-driven 500 automatic torque converter designed for 3 to 7½-hp gasoline engines and certain electric motor applications. Unit provides load-free idling; smooth, locked-in 3:1 power-to-load ratio in low as engine is accelerated beyond 1650 rpm; and automatic 1:1 ratio in high as engine is accelerated beyond 2200-2600 rpm. Compact unit operates quietly under adverse weather or terrain conditions. • **Salsbury Corp.**, 1161 E. Florence Ave., Los Angeles 1, Calif.

▲ For more details circle NED-509 L1 on enclosed inquiry slip ▲

Stack-n-Nest® containers make "CENTS" in every handling system

1. Matching covers for clean storage
2. Pans nest . . . for minimum storage space
3. Pans stack securely for multiple handling and safe, high storage
4. Matching dollies for rapid, easy movement

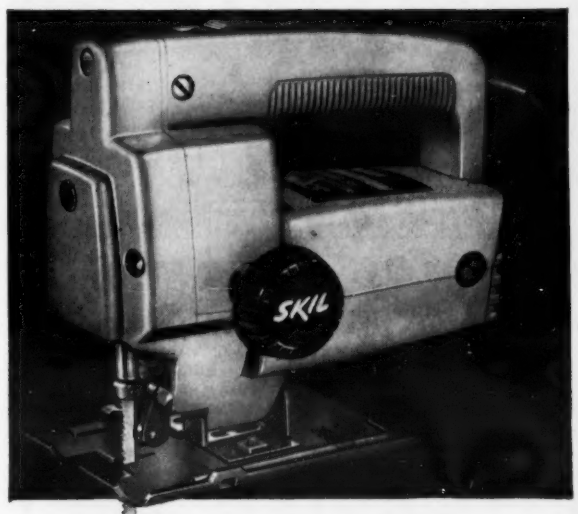
Write for brochure on complete line. Also ask for information on Lewis Woven Wood-and-Wire Containers, Plastibox Assembly Bins and Mounting Accessories, and PolyLewton Food Handling Pans.

G.B. Lewis COMPANY

411 Montgomery Street • Watertown, Wisconsin

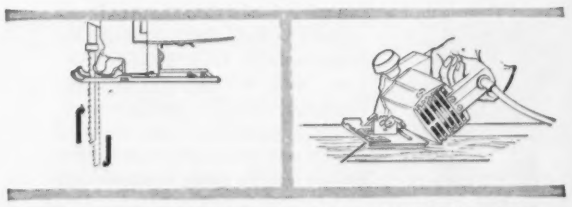
▲ For more details circle NED-510 L1 on enclosed inquiry slip ▲

NEW! FROM SKIL



2-SPEED JIG SAW CUTS WOOD AND METAL

World's fastest cutting jig saw! Flick the switch to high speed on this heavy-duty Model 160 Jig Saw for cutting wood, plastic and compositions. Flick it to low for fast metal cutting with less blade wear. Use it to rip, cross cut, plunge cut, notch, scroll cut, bevel. Special 3-position foot lets you cut plywood without splintering. Only $99.50, complete with rip guide, 4 blades. Ask your Skil distributor to demonstrate. Or write: Skil Corporation, 5033 Elston Ave., Dept. 119K, Chicago 30.



FULL 1" ORBITAL CUTTING STROKE—For ultra fast cutting with less blade drag and wear.

FULL 45° RIGHT AND LEFT BEVEL ADJUSTMENT—Stop pin for quick 0°, 15°, 30° and 45° settings.

SKIL ...and SKILSAW POWER TOOLS

▲ For more details circle NED-511 L1 on enclosed inquiry slip ▲

TRENT KA KETTLES SOLVE SPECIAL MELTING PROBLEMS FOR PARAPLAST MELTERS

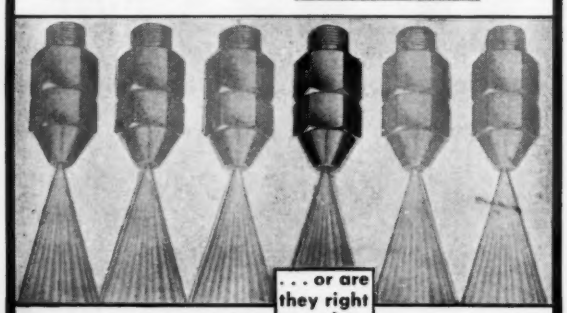
Rezolin, Inc., makes Paraplast—new plastic mold material used for filament winding mandrels and honeycomb-stabilizing by leading aircraft manufacturers. Trent makes KA Kettles—the melter kettles required to keep Paraplast at uniform, controlled molten temperatures up to 550°F. An automatically controlled lever pouring valve and special agitator are provided to meet Rezolin specifications. Trent KA Kettles can be "customized" to solve your special melting or heating problems.

TRENT "FOLDED AND FORMED" HEATING ELEMENT MAKES THE DIFFERENCE—discuss your heating problems with a Trent specialist.

TRENT Electrically Heated Industrial Equipment
INC. 251 Leverington Ave. Philadelphia 27, Pa.
In Canada: Pioneer Electric Eastern Ltd., Toronto

▲ For more details circle **NED-512 L1** on enclosed inquiry slip ▲

Are the SPRAY NOZZLES you use in the grey zones...



. . . or are they right on the beam?

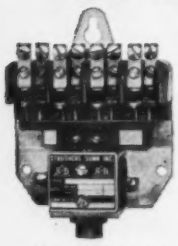
Like an electronic system, a spray nozzle system can be *tuned* for maximum performance. To do this select spray nozzles that *exactly* fit the system needs . . . in terms of capacity, spray characteristics and materials. The use of Spraying Systems spray nozzles keeps spraying installations out of the costly grey zones. The reason: you have a choice of over 12,000 *standard* nozzle types and capacities to match the nozzles exactly to your need.

FOR PROOF . . . write for Catalog No. 24.

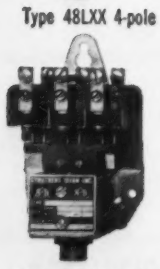
SPRAYING SYSTEMS CO.
3211 Randolph St. • Bellwood, Ill.

▲ For more details circle **NED-513 L1** on enclosed inquiry slip ▲

PAYING TOO MUCH FOR MOTOR CONTROL CONTACTORS?



Type 48LXX 4-pole



Type 48KXX 3-pole

Here is dependable motor control—in smallest practical size—for long life under rugged conditions—and at less cost than you'd expect.

Ideally suited for built-in AC motor control up to 3 h.p. for 440/550 volt 3-phase service—or for controlling solenoids, lamps, heaters and other loads. Contacts handle 15 amperes to 600 volts AC. Write for Struthers-Dunn Data Bulletin 7048.

A LOW COST REVERSING TYPE (A175KXX), similarly rated, has two three pole units mounted side by side and mechanically interlocked. *Ask for Data Bulletin 7100.*

STRUTHERS-DUNN, INC., Pitman, N.J.

STRUTHERS-DUNN S-D

WORLD'S LARGEST SELECTION OF RELAY TYPES

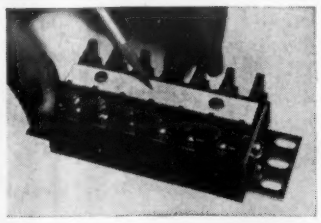
▲ For more details circle **NED-514 L1** on enclosed inquiry slip ▲

SEPARATOR-TRAP for air, gas, and steam lines

Oil and water are removed from compressed air, gas, and steam lines by this in-line T-type separator which is combined with the proper trap for the application. Separators and traps are matched up for system pressures from 150 to 1000 psi and for pipe sizes from ½ to 8 in. Separator-trap unit's compactness permits installation near point of use to minimize forming of condensate downstream. System for a 150-psi, ¾-in. compressed air line costs $39. • **Wright-Austin Co.**, 3245 Wight St., Detroit 7, Mich.

▲ For more details circle **NED-515 L1** on enclosed inquiry slip ▲

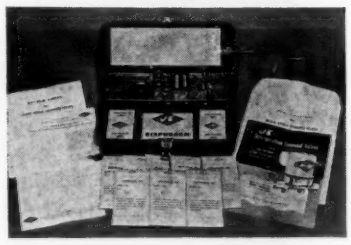
TERMINAL BLOCK withstands 300° F temperature



Compact, general purpose Type CDM terminal block has an electrical rating of 750 v and 30 amp. Suited for switchboards and panels subject to operating temperatures up to 300° F, it has center-to-center spacing of 0.547 in. Fifty terminals or poles occupy only 29 in. of panel space. Block of molded, flame-resistant phenolic material incorporates 10-32 x ⅜-in. screws for termination of up to No. 10 wire with ring or spade lugs or wire loops. A white fiber marking strip provides circuit identification. • **Curtis Development & Mfg. Co.**, 3266 N. 33rd St., Milwaukee 16, Wis.

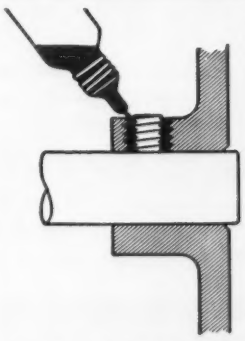
▲ For more details circle **NED-516 L1** on enclosed inquiry slip ▲

VALVE SERVICING KITS have parts for 695 valve assemblies



Parts for servicing 695 different valve combinations are provided in two service parts kits. They contain such parts as coils, plungers, diaphragms, seals, and bolts, as well as necessary Allen wrenches and service instructions. With Kit 77555, 123 refrigeration type solenoid valves in five voltages, or a total of 615 different valve combinations, can be serviced. Kit 77554 will service 80 combinations of 20 different J-Series industrial solenoid valves in four voltages. • **Jackes-Evans Mfg. Co.**, 4427 Geraldine Ave., St. Louis 15, Mo.

▲ For more details circle **NED-517 L1** on enclosed inquiry slip ▲



One drop of Loctite and a set screw stays put!

Loctite Sealant, "the Liquid Lock Washer," wicks between threaded surfaces . . . then hardens in the joint. Locking action extends over entire engaged area. Result: an end to costly breakdowns caused by vibration-loosened screws. Parts treated with Loctite are removed easily with ordinary tools.

Call your distributor, or write us for literature and free sample.

LOCTITE® SEALANT
AMERICAN SEALANTS COMPANY
229 NORTH MOUNTAIN ROAD • HARTFORD 11, CONN.

▲ For more details circle **NED-518 L1** on enclosed inquiry slip ▲

Work-O-Matic* Box and Stand for UNIT LOAD HANDLING AND WORK-LEVEL POSITIONING

Check these 7 Work-O-Matic features

1. **WORK-O-MATIC DROP BOTTOM BOX.** Heavy gauge corrugated steel construction. Square corners.
2. **CORNER STACKING ANGLES.** Safe tiering without shifting. Save floor space.
3. **HINGED CHUTE BOTTOM.** As forks of truck are lowered, hinged bottom opens and parts slide into tray.
4. **WORK POSITIONING STAND.** Receives box from back or side. Safely and easily transported by lift truck.
5. **CONTROL GATE.** Vertical adjustment controls flow of parts into tray.
6. **WORK-LEVEL TRAY.** Reservoir feature eliminates work stoppage when changing boxes.
7. **INCLINED TRAY END.** Assures parts accessibility. Speeds job changes.

In addition, Union Metal offers industry's broadest line of conventional type material handling containers. Write for complete catalog information. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

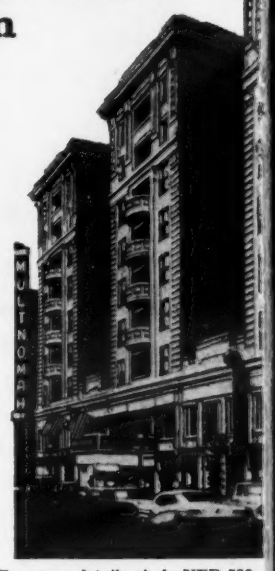
*Registered Trade Mark

UNION METAL
Material Handling Equipment

▲ For more details circle **NED-519 L1** ▲

Electrical Protection is MODERNIZED with BUSS Fuses...

in the Multnomah Hotel Portland, Oregon



In this well-known hotel of the Northwest, it became necessary to modernize the electrical system to take full advantage of the many uses for electricity today.

To assure safe, dependable and lasting protection, BUSS Hi-Cap and FUSETRON fuses were installed.

This is another example of the modern trend in electrical protection. Architects, engineers and plant operating men are finding no other type of device can equal fuses for high-interrupting capacity and lifetime, maintenance-free dependability.

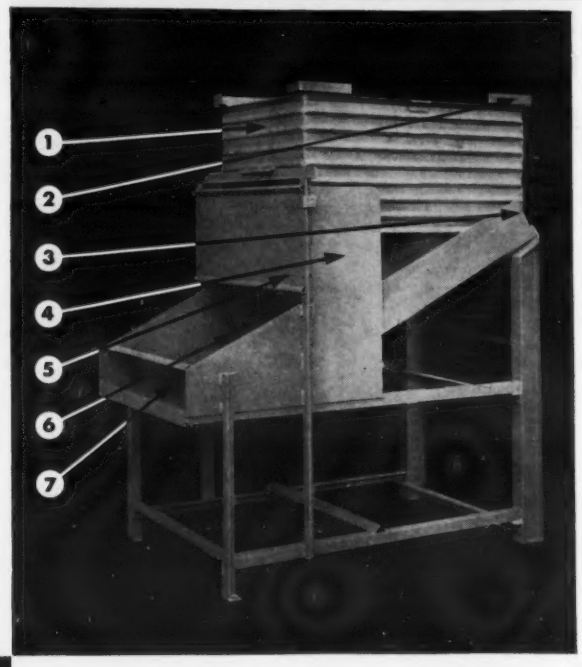
Fuses provide high interrupting capacity at a very low cost.

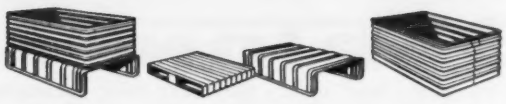
Fusetron fuses have an interrupting rating of 100,000 amps. rms symmetrical—and for BUSS Hi-Cap fuses it is 200,000 amps. rms symmetrical.

▲ For more details circle **NED-520** ▲

The Authorized SKF

▲ For more details circle **NED-521** ▲





L1 on enclosed inquiry slip ▲

For more information on:
Fusetron dual-element fuses.....write for bulletin FIS
BUSS Hi-Cap fuses.....write for bulletin HCS
BUSSMANN MFG. DIVISION, *McGraw-Edison Co.*
University at Jefferson, St. Louis 7, Mo.

L1 on enclosed inquiry slip ▲

Distributor always comes up with the right bearing

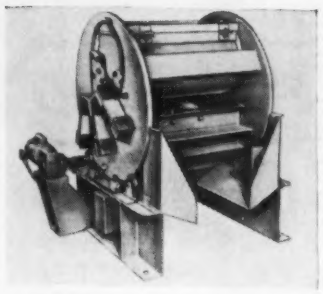
—because he stocks SKF bearings, the most complete line of types and sizes available today. 5919

SKF MOTION ENGINEERING

Advanced ball and roller bearing technology

L1 on enclosed inquiry slip ▲

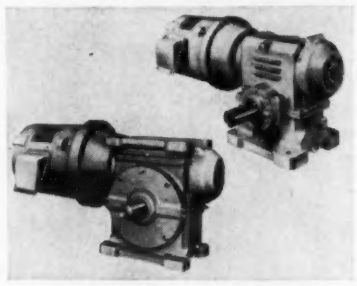
BARREL FINISHING MACHINE
6-cu ft unit deburrs and polishes



Pushbutton operated Model VB-6 vibratory barrel finishing machine with 6-cu ft capacity deburrs, deflashes, polishes, or descales metal parts, then rotates to emptying position where barrel tilts to facilitate unloading. Entire cycle is automatic. Electromagnetic drive produces 3600 vibrations per minute to actuate both parts and abrasive media. Rinsing and unloading are initiated by pushbutton. Unit handles both heavy and light gage metal parts and odd stampings with shielded areas and recesses. • **Syntron Co.,** 405 Lexington Ave., Homer City, Pa.

▲ For more details circle **NED-522 L1** on enclosed inquiry slip ▲

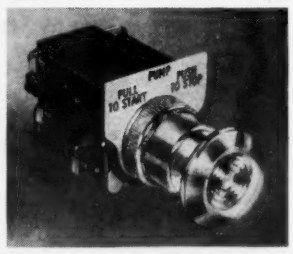
RIGHT-ANGLE GEARMOTORS
1 to 20-hp ac and dc units



Single-reduction worm gearing affords high-ratio reduction in Type W right-angle gearmotors, available in alternating-current motor ratings from 1 to 20 hp and direct-current sizes from 1 to 15 hp. Units are used with apparatus driven by belts, chains, or spur gearing, as well as through couplings. An aluminum radial fan directs air over the finned sides of the gear housing, giving high thermal efficiency to the quiet-operating units. Round-frame Life-Line A and H motors are used. • **Westinghouse Electric Corp.,** Box 2099, Pittsburgh 30, Pa.

▲ For more details circle **NED-523 L1** on enclosed inquiry slip ▲

PUSHBUTTON CONTROL
illuminated unit does three jobs



Space-saving pushbutton control combines pull-to-start, illuminated lens, and push-to-stop functions. It can be installed in any standard single hole enclosure and has a No. 51, 6-8 v lamp coupled with a heavy-duty transformer. Units are available for 115 or 230 v, with various lenses in choice of six colors. • **Mackworth G. Rees, Inc.,** 1573 E. Forest Ave., Detroit 7, Mich.

▲ For more details circle **NED-524 L1** on enclosed inquiry slip ▲

Here's how you can save money by

DEGREES

TRERICE SELF-OPERATING TEMPERATURE REGULATORS
cut your liquid processing costs by maintaining the *one best* temperature. Trerice No. 90000 and No. 90400 Self-Operating Temperature Regulators insure automatic, precision control of liquid temperatures between 40° F. and 300° F. No air or electricity required for operation. Available in either direct or reverse acting models; stainless steel or bronze trim. Most ranges and sizes in stock.

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H.O. TRERICE CO. 1420-C W. Lafayette Blvd. Detroit 16, Michigan

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USE YOUR OWN 55 GALLON DRUMS

HILD

TRANSFERABLE HEAD
VACUUM CLEANERS

POWERFUL INDUSTRIAL MODELS TO SOLVE YOUR PICK-UP AND BLOWING PROBLEMS!

Representatives in Every Major City

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HILD FLOOR MACHINE CO., INC.
1217 W. Washington Blvd., Chicago 7

HILD VACUUM CLEANERS, SCRUBBERS AND POLISHERS HAVE SERVED INDUSTRY FOR 35 YEARS

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THIS CATALOG

PROVIDES THE ANSWERS TO YOUR DISTILLED WATER PROBLEMS

Barnstead's Catalog "G" not only describes Stills in capacities of from ½ to 1000 gallons per hour but is also a "mine" of information on Pure Water techniques. It cites case histories in practically all industrial applications

It presents the features on "The Still You Never Need Clean" . . . Double-Effect, and Triple-Effect Stills . . . Full Automatic Controls . . . Puromatic Controller . . . Purity Meter, and other Pure Water accessories and equipment. Write for your Catalog "G" today.

Barnstead®
STILL AND STERILIZER CO.
16 Lanesville Terrace, Boston 31, Mass.

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for *QUICK-AS-A-WINK-*
PERMANENT IDENTIFICATION
Every Material... Every Application!

Markal®
***Paintstik* MARKERS**

Permanent • Fadeproof • Weatherproof

16 Types To Serve You!

ON EVERY SURFACE, marking's easy and lasting when you use Markal Paintstik Markers. No matter whether it's hot or cold, dry or wet or oily—there's a specific type to do the job on metals, wood, plastic, rubber, glass, ceramic, any other surface. To be sure, insist on Markal for your marking requirements.

HOT—Choice of Markal Markers for temperatures high as 2400°F.

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MARKAL—*The Mark of Quality*

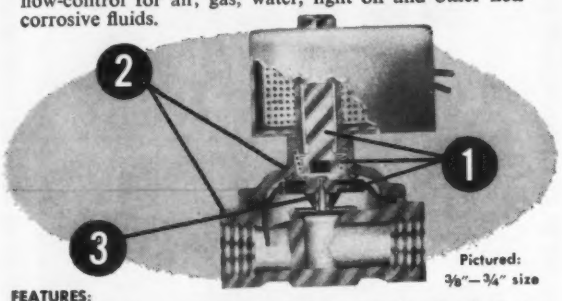
MARKAL CO. • 3053 West Carroll Avenue • Chicago 12, Illinois

WRITE TODAY for free Markal Catalog. If you have a marking problem, send details.

▲ For more details circle **NED-528 L1** on enclosed inquiry slip ▲

New complete line of 2-way solenoid valves covers full 3/8" to 3" range

ASCO's new line of general purpose packless valves controls pressures to 350 p.s.i. . . . provides dependable flow-control for air, gas, water, light oil and other non-corrosive fluids.



Pictured: 3/8"—3/4" size

FEATURES:

1. Simplicity in construction: Only 3 operational parts: all stainless steel core, stainless steel spring, Hycar diaphragm. (bronze piston, 1¼"—3" sizes)
2. Ruggedness: forged brass bonnet, and body insure freedom from porosity.
3. Tight shut-off: assured by resilient disc construction.
- Compactness: 2¾" face to face, 3 13/16" overall height. (Normally closed 3/8" and ½" sizes)
- Mounts in any position: normally open or closed.

Write for Catalog 202, covering ASCO line of solenoid valves and for the Solenoid Valve Stock List and Selection Guide.

ASCO Valves ASCO

Automatic Switch Co. 54-B HANOVER ROAD, FLORHAM PARK, N. J., FRONTIER 7-4600

▲ For more details circle NED-529 L1 on enclosed inquiry slip ▲

SAFER HANDLING of INDUSTRIAL LIQUIDS!

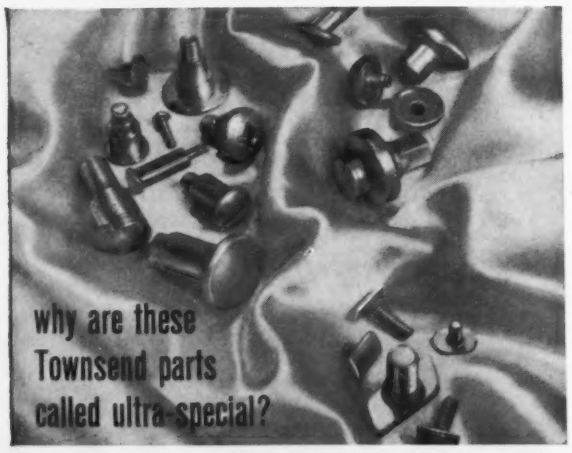
Eliminate in-plant accidents caused by slick floors and spilled inflammables! This TOKHEIM Hand Pump, for use on drums or skid-tanks, has 8' hose—or spout outlet—prevents dangerous, wasteful slopping of oils and many other liquids. Speeds production. Pumps 20 gallons per 100 strokes. Ask your dealer, your Tokheim representative or write for list of liquids.

TOKHEIM High-Vacuum HAND PUMPS

General Products Division
TOKHEIM CORPORATION
1656 Wabash Avenue Fort Wayne 1, Ind.

Subsidiaries: GenPro Inc., Shelbyville, Indiana; Tokheim of Canada, Ltd., Toronto, Ontario; Tokheim International, A. G., Lucerne, Switzerland

▲ For more details circle NED-530 L1 on enclosed inquiry slip ▲



We call the metal parts shown here Ultra-Special because they are the result of completely new cold-forming and finishing techniques. They are typical examples of how users are reducing costs by taking advantage of the strength, improved quality, close dimensions and economy of mass-producing parts by cold-forming.

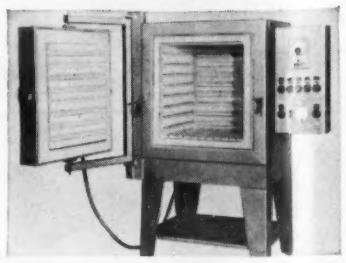
Now, through extensive research and development work Townsend is cold-forming Ultra-Special items with intricate shapes and critical dimensions held to tolerances as close as .001 inch. They may be made by combining cold-heading processes with impact extrusions, special heat-treatment and coatings, to name but one of the new techniques.

The use of Townsend Ultra-Special items in your product assembly could provide the means to make better products at lower costs. Investigate by asking a Townsend field engineer to call. **Write Townsend Company, Engineered Fasteners Division, P. O. Box 71-G, Ellwood City, Pa.**

In Canada: Parmenter-Bulloch Manufacturing Co., Limited, Gananoque, Ontario

▲ For more details circle NED-531 L1 on enclosed inquiry slip ▲

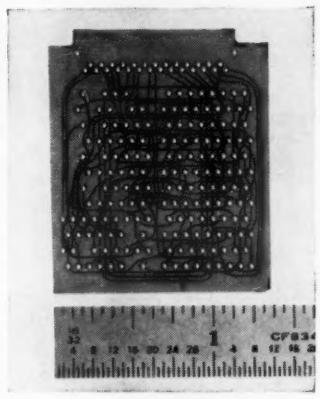
HEAT TREATING FURNACE floor model heats to 2300° F



Compact Dyna-Trol heat treating furnace which has infinite heat-rate control from 300 to 2300° F is offered in six floor-stand models. Easily replaced elements heat furnace to 2000° F in 1 hr and to 2300° F in 1½ hr. Input controllers can be set at 7 to 100 per cent of input. Models range in size from 18 x 18 x 18 in. to 24 x 24 x 72 in. Fully automatic temperature controlled units are also available. Each can be equipped with forced convection fans designed to operate to 1875° F temperatures. Fans are easily removed for operation above this point. • **L & L Mfg. Co.**, 804 Mulberry St., Upland, Chester, Pa.

▲ For more details circle NED-532 L1 on enclosed inquiry slip ▲

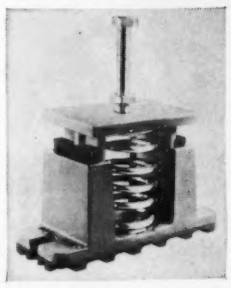
MULTILAYER PRINTED CIRCUITS afford savings in size, weight



Up to six individual circuit layers are obtainable in miniaturized Encapsulayer printed circuits. Layers are laminated together under heat and pressure to produce panels with savings in size and weight over conventional circuits. Layer-to-layer interconnection is by means of landless plated-through holes. Illustrated 1.6 x 1.4 x 0.050-in. circuit with three layers has 205 plated-through holes of 0.013-in. diameter. In production quantities, price range is $10 to $50. • **Photocircuits Corp.**, 31 Sea Cliff Ave., Glen Cove, N. Y.

▲ For more details circle NED-533 L1 on enclosed inquiry slip ▲

SPRING MOUNTING for machinery, air conditioners



Vibration, shock, and structural noise transmission in machinery are stopped by installation of Type LNAA spring isolation mount. A single helical coil steel spring, available in four load carrying capacities from 50 to 540 lb, is the cushioning medium. Spring is inserted in the 3¾ x 3¼ x 5⅛-in. cast semisteel isolator housing from either side. An external leveling device eliminates the need for shims, and soft sponge rubber snubbing chocks restrict lateral movement. Mounting can be used in fans, cooling towers, motor generator sets, pipe supports, turbines, air conditioning and air handling units, machine tools, and instruments. • **Korfund Co.**, Shock & Vibration Div., 35P Cantiague Rd., Westbury, L. I., N. Y.

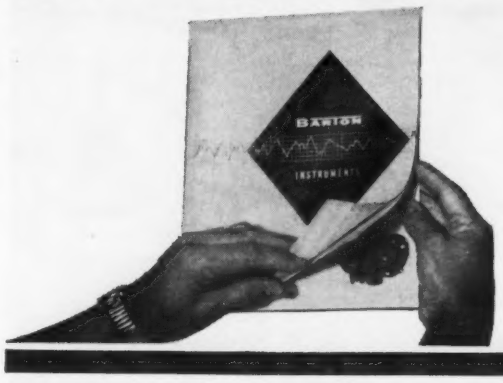
▲ For more details circle NED-534 L1 on enclosed inquiry slip ▲

HYDROCARBON DETECTOR measures 10 toxic concentrations

Two-part portable halogenated hydrocarbon detector measures ten of the most frequently used compounds used in metal degreasing, dry cleaning, fire extinguishment, refrigeration, and as paint, varnish, and rubber solvents. It measures toxic concentrations of trichloroethylene, perchloroethylene, ethyl bromide, ethyl chloride, methyl bromide, monochlorobenzene, and other compounds. Reactor tube and a detector tube are joined together for testing, and an air sample is drawn through the proper detection unit by an aspirator bulb. A calibration chart provides a quick reading. • **Mine Safety Appliances Co.**, 220 N. Braddock Ave., Pittsburgh 8, Pa.

▲ For more details circle NED-535 L1 on enclosed inquiry slip ▲

GET THIS VALUABLE NEW INSTRUMENT CATALOG



Here's what you should know about Barton differential pressure instruments. Which instruments to use, and where . . . Why a bellows-type meter is superior to a mercury type . . . Why certain meters can be over-ranged, why others can't . . . Descriptions of differential pressure controllers, integrating flow recorders, indicators, recorders, switches and transmitters. All this and more is included in this easy to read reference piece by Barton—and it's yours for the asking. **Write for it today.**

BARTON INSTRUMENT CORPORATION
580 MONTEREY PASS ROAD • MONTEREY PARK, CALIFORNIA

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LEADING TEXTILE COMPANY
Announces Development
OF
DISPOSABLE CLOTH TOWELS

YOU ARE INVITED TO TRY ONE OR ALL STYLES
DESIGNED FOR
HAND TOWELS WIPING
POLISHING DUSTING
RSVP FOR SAMPLES & INFORMATION
CHICOPEE MILLS, INC.
47 WORTH ST., N. Y. 13, N. Y.

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Textile Counting Plates - $1.00 Henry Disc. - $10.00 Battery Disc - $10.00

** All electric and battery handles - other parts are interchangeable—phone or write for catalog or contact your local dealer*

E. W. PIKE & CO., INC.
577 Pennsylvania Ave. • Elizabeth, New Jersey • EL 2-0630

▲ For more details circle NED-538 L1 on enclosed inquiry slip ▲

Vlchek Plastic Boxes for every need

Vlchek Model P-824
24 compartment, clear plastic box
one of largest compartmented boxes ever molded

If you require plastic boxes for packaging your products . . . or for use in plant and office operations, see Vlchek.

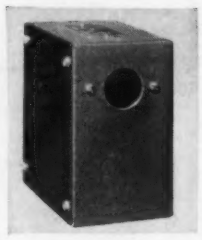
Vlchek, pioneer plastics manufacturer, stocks boxes in 30 standard sizes . . . ready for immediate shipment. These are available in 1,000 compartment arrangements . . . crystal clear, tinted transparent, or solid colors. Complete imprinting service.

Or, if you need a special box of any type or shape, Vlchek will design and custom-manufacture it. Write us today. Our representative will call promptly. AA-9913

The **Vlchek** *Tool Co.*
SINCE 1895
Cleveland 4, Ohio

▲ For more details circle **NED-539 L1** on enclosed inquiry slip ▲

PHOTOELECTRIC EYE SYSTEM
counts, signals, and controls



Typical applications for this transistorized photoelectric eye system include counting people, shipments, or objects at speeds up to 1200 per minute; signaling light and darkness, trespass, or entrance; and controlling conveyors and machinery. System operates within 0.05 sec at distances up to 25 ft. It consists of the R1-354 light receiver shown and the companion PAC-244 light projector. Both units plug into any 110-125-v ac outlet and both have aluminum housings. • **Electric Eye Enterprises,** 15540 W. Dixie Highway, North Miami Beach, Fla.

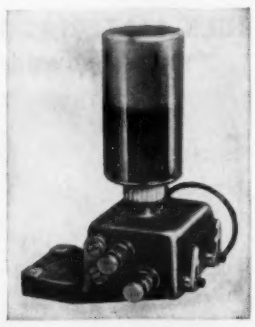
▲ For more details circle **NED-541 L1** on enclosed inquiry slip ▲

AIR CONDITIONING CONTROL
allows selective zone operation

Single offices or sections of industrial plants which are occupied after hours when the zoned central air conditioning system is normally shut down can be made comfortable by using the T-O-D-C triple overriding dual control system. It prevents wasteful operation of the entire conditioning system. Normally, a programming clock starts and stops the entire system at desired hours, but this control provides for after-hours or week-end pushbutton restarting of individual zones, followed by periodic shutdown by a programming clock. If still occupied, the office or zone can again be restarted. Control is applicable to various types of systems without any control wiring between individual zones and central control point. • **Remington Corp.,** Air Conditioning Div., Auburn, N. Y.

▲ For more details circle **NED-542 L1** on enclosed inquiry slip ▲

COILED STOCK OILER
oils both top and bottom surfaces



A controlled film of cutting oil is applied on both top and bottom surfaces of coiled stock before it enters a punch press by this coiled stock oiler. Oil fed from a plastic bottle to the core of a pair of rollers is controlled by needle valves. Stock is wiped clean by a pair of squeegees as it enters the oiler. Unit will handle coiled stock up to 3 in. wide by 1/16 in. thick. • **Jaco Devices, Inc.,** 95 High St., Hingham, Mass.

▲ For more details circle **NED-543 L1** on enclosed inquiry slip ▲

The **MULTIPRESS**
FOR
CARTON & LABEL
IMPRINTING & CODE MARKING
ELIMINATE HAND STAMPING
7000 PER HOUR CONTINUOUS FEEDING

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JUST OFF THE PRESS!

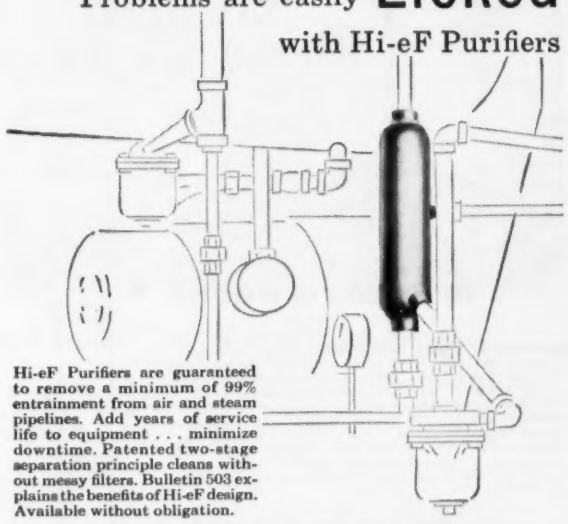
Your handbook to profits in industrial hardware

The new Wilcox-Crittenden Industrial Hardware Catalog No. 301 illustrates the most popular, most profitable line of drop-forged hardware on the market. And it's packed with hundreds of sales points which your customers ask about. Take another step toward a sell-out season — send for Catalog No. 301.

WILCOX-CRITTENDEN DIVISION, NORTH & JUDD MANUFACTURING CO. 67 SOUTH MAIN ST., MIDDLETOWN, CONN.

▲ For more details circle **NED-540 L1** on enclosed inquiry slip ▲

Air and Steam Entrainment Problems are easily Licked with Hi-eF Purifiers



Hi-eF Purifiers are guaranteed to remove a minimum of 99% entrainment from air and steam pipelines. Add years of service life to equipment . . . minimize downtime. Patented two-stage separation principle cleans without messy filters. Bulletin 503 explains the benefits of Hi-eF design. Available without obligation.

Hi-eF PURIFIER
By the Manufacturers of Super-Silvertop Steam Traps

The V.D. ANDERSON COMPANY
Division of International Basic Economy Corporation
1988 W. 96th Street • Cleveland 2, Ohio

▲ For more details circle **NED-546 L1** on enclosed inquiry slip ▲

▲ For more details circle **NED-544 L1** on enclosed inquiry slip ▲

puritan ropes can save you money!

depend upon it...

... because Puritan manufactures a wide variety of synthetic and natural fiber ropes designed to meet specific work load requirements! Matching the right rope to the right job saves breakage and replacement costs, down-time, makes jobs go faster, smoother, more safely. Special attention given to specific industrial application problems.

PURITAN CORDAGE MILLS, INC.
1205 E. Washington Street
Louisville 6, Kentucky

For more details circle **NED-547 L1** on enclosed inquiry slip

Decorator Line

FLOOR STANDING Hat and Coat Racks

with either **HANGERS or HOOKS**

Decorator floor models are soundly engineered, quality built and beautifully designed. Frames are of welded square tubular steel giving needed strength and weight for anodized aluminum shelf sections. Cast aluminum shelf-arms finished to match steel frames in silver-gray or gold hammertone colors. All Decorator Floor models single faced or double faced (island); garment hanger or hook styles. Two to six foot lengths, adjustable glides or 2" swivel casters. Quality built, these units will stand for years — will not creak, sway, tip or sag.

Write for Bulletin DL-8 for full information on complete Decorator line including wall mounted racks.

VOGEL-PETERSON CO
RT. 83 AND MADISON ST. • ELMHURST, ILL.

For more details circle **NED-548 L1** on enclosed inquiry slip

SPECIAL TOOLS FOR SPECIAL PROBLEMS

Odd as they look, these are actual production tools. They were manufactured by Xcelite to increase efficiency on special assembly work where conventional hand tools proved inadequate.

Chances are that "special function" tools can speed your production. Supply prints (model if available) of part on which tool will be used. Prototype designed and tooled for your approval. Any quantity . . . to meet your production schedule. Contact factory direct.

Complete information in new "Custom-made Tool" Brochure No. 660. Request on your letterhead.

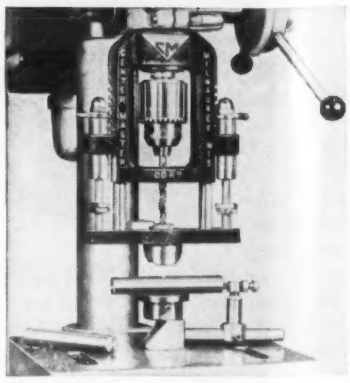
XCELITE, INC. Orchard Park, N. Y.

XCELITE

INDUSTRIAL HAND TOOLS

For more details circle **NED-549 L1** on enclosed inquiry slip

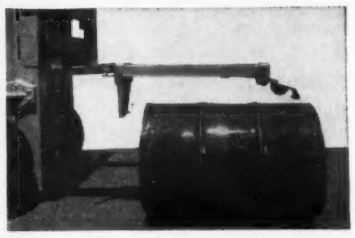
DRILL PRESS ATTACHMENT
holds, locates, guides cutting tool



Center Master drill press attachment holds, locates, and guides the cutting tool for drilling, counterboring, chamfering, and reaming on any round, hexagonal, or square part. It mounts on the quill of any ½-in. drill press. The drill chuck is located in the center of the unit's frame, and the cutting tool passes down through a bell or vee bushing, depending upon shape of work. Spring pressure of 100 lb on push rods holds the work in place and adjustable stops control cutting depth. Drill jigs and special holding fixtures are eliminated in most applications. Attachment can also be set up for burr or nib cutoff, off-center drilling, and special drilling with vee bushings. • **Portage Double Quick, Inc.,** 1043 Sweitzer Ave., Akron 11, Ohio.

For more details circle **NED-550 L1** on enclosed inquiry slip

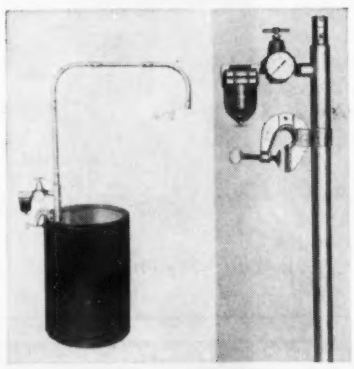
DRUM LIFT ATTACHMENT
designed for horizontal storage



Any fork lift truck can be converted for handling 55-gal drums in horizontal position by sliding this Bull-Dog horizontal drum lift onto its forks. It locks in place with cam-action grip to lift up to 2000 lb. Simple adjustment adapts it for lifting two drums at once for placement in horizontal storage. Drum can be approached from end or side, and is both clamped and released automatically. • **Nor-Cal Products Co.,** 1832 Franklin St., San Francisco 9, Calif.

For more details circle **NED-551 L1** on enclosed inquiry slip

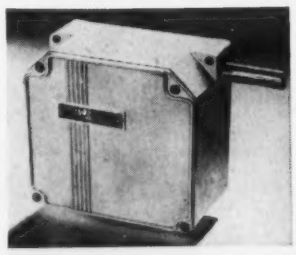
BULK MATERIAL HANDLER
moves powders, granular materials



From 75 to 800 lb of powders and granular materials can be transferred per hour from drums to hoppers of injection molding, extruding, and other machines by the Transfermatic venturi type handler. Exact rate depends upon air pressure setting and distance materials are to be moved. Operating on plant compressed air up to 150 psi, the unit is clamped to the side of any drum. Conduit lengths are connected to the basic unit to convey material to any location. Optimum transfer rate is obtained at settings under 30 psi. Handler is equipped with pressure gage, pressure regulator, and air filter. • **Ball & Jewell, Inc.,** 22 Franklin St., Brooklyn 22, N. Y.

For more details circle **NED-552 L1** on enclosed inquiry slip

LIMIT SWITCH
for rotating drive shafts



Measuring the revolutions of a rotating drive shaft, this CR115E limit switch is used for stopping and starting overhead doors or hoists. It is also suitable for machine tools where rotary, instead of linear motion, must be sensed. Cam adjustment can be made with one hand and is easily visible to worker. Switch is offered with fast resetting action in nine gear ratios from 20:1 to 1280:1. Up to four precision snap-acting switches, each able to control a separate function, or all able to act simultaneously, can be incorporated. • **General Electric Co.,** 1 River Rd., Schenectady 5, N. Y.

For more details circle **NED-553 L1** on enclosed inquiry slip

Your **SOABAR MAN*** recommends . . . Soabar's NEW Model 21 Label Marker

Compact Design allows more marking area for pricing, product identification, stock control. Marks and counts at a rate of 170 labels per minute from money-saving label rolls. Automatic Self-stop Counter stops machine at any number of labels from 1 to 1000. Run-out Switch stops machine and counter when label roll comes to an end. Count continues with new roll. New Label Reels simplify loading . . . provide smooth, trouble-free operation.

Model 21 marks a variety of labels—sew-in, pressure sensitive (Quick-Stick), gummed paper and button . . . from ¾" x ⅜" to 1" x 1⅞". Flexible Marking Methods provide split-second copy changes . . . choice of type, slugs, vinyl plates, addressograph plates, line cuts, and "dial" registers.

*** Thomas Fitzgerald, District Manager, Chicago, Ill. . . . one of 36 SOABAR marking specialists conveniently located throughout the U.S.**

Soabar COMPANY
Specialists in Marking Equipment and Roll Tickets and Labels Since 1912
7722 Dungan Road • Philadelphia 11, Pa.

For more details circle **NED-554 L1** on enclosed inquiry slip

UNCONDITIONAL GUARANTEE — TRIP-L-TRAP will operate on any air or gas line, surely and efficiently, if properly installed. Therefore, if for any reason other than corrosion, dismantling, or damage, the TRIP-L-TRAP should fail in service within one year after date of shipment, it should be returned to the factory immediately and a replacement TRIP-L-TRAP will be sent by return mail. HANKISON CORPORATION, College & Pike • Canonsburg, Pa. U.S.A. GUARANTEE REQUIRES THIS TAG REMAIN ATTACHED

Unconditional **1 YEAR GUARANTEE**

MAG-PNEU-POWER
TRIP-L-TRAP
condensate
DISCHARGE CONTROL

Model 501 Pat. Pending

By guarding itself against clogging, the TRIP-L-TRAP earns this unconditional guarantee under ANY condition.

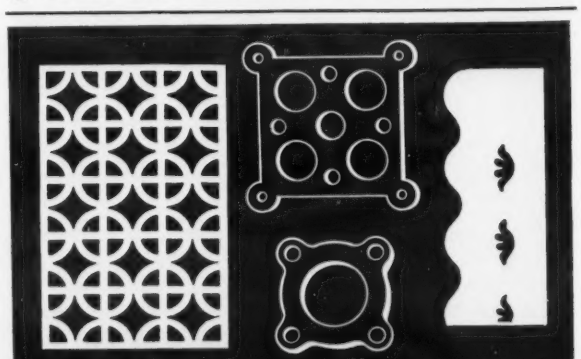
TRIP-ACTION EJECTION KEEPS YOUR AIR LINES TROUBLE-FREE

- Discharges condensates efficiently, economically
- Prevents air leakage, valve chattering and excess pressure drop
- Utilizes system pressure for condensate removal
- 10-200 PSIG operation

Send for Illustrated Bulletin 502

Hankison CORPORATION
College & Pike • Canonsburg, Pa. (Greater Pittsburgh Area)

For more details circle **NED-555 L1** on enclosed inquiry slip



Cutawl the precision high speed portable cutting machine

CUTS ANY SHAPE OR ANY DESIGN IN ANY SHEET MATERIAL QUICKLY, ACCURATELY, INEXPENSIVELY!

Carry it to the job, start cutting anywhere — even in the center. The Cutawl makes its own starting hole, cuts effortlessly in any direction. Unique swivel cutting head follows intricate designs precisely. Machine always faces the operator regardless of the direction of cutting, enabling uniform and accurate control.

The Cutawl requires no special skill or training, cuts everything from thin paper to sheet metal. Many different chisels and saws and adjustable stroke and speed permit infinite variety. It is ideal for patterns and templates, custom millwork, linoleum inlay work and a host of other applications.

Free demonstration will be arranged upon request. For illustrated information and name of your nearest Cutawl dealer, write today for Catalog C29-E.

THE CUTAWL CORPORATION • BETHEL, CONN.

For more details circle **NED-556 L1** on enclosed inquiry slip

Designed for Gage Pressure, Volumetic Pressure, Volumetric Load and Temperature, the Taylor 210T TRANSCOPE* Transmitter is only 7" x 9" x 4", yet you can read the 11¾" scale up to 35 ft. away.

Accuracy of transmitted signal is within ½% of the input signal. Indication within ± 1% of actual value. Threshold sensitivity 0.1% of input span.

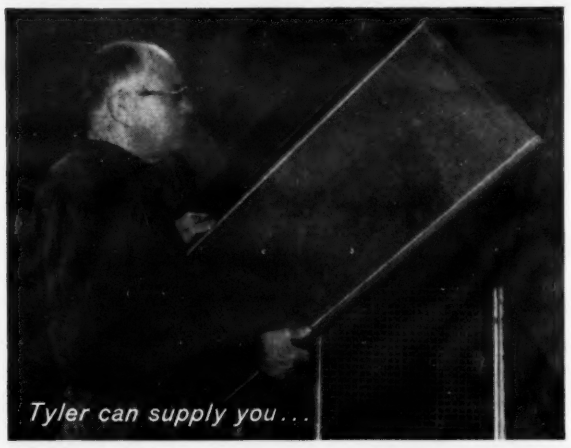
Low in cost but high in quality, this motion-balance, pneumatic transmitter is exceptionally easy to adjust and maintain. Weatherproof case is split diagonally for easy access. Single package pneumatics, encapsulated movements and actuating element are easily removed for service. It can be wall or pipe mounted.

Ask your Taylor Field Engineer, or write for **Bulletin 98385.** *Taylor Instrument Companies, Rochester, N. Y., or Toronto, Ontario.*

*Trade Mark

Taylor Instruments **MEAN ACCURACY FIRST**

▲ For more details circle **NED-557 L1** on enclosed inquiry slip ▲



FABRICATED WIRE CLOTH SECTIONS TO FIT EVERY VIBRATING SCREEN MADE

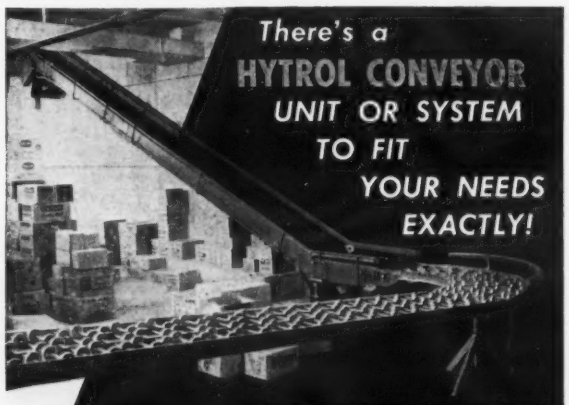
Tyler fabricates screen sections to fit all existing makes of vibrating screens, using wire cloth drawn from inventory, fabricated in a special department to give you fast delivery. Since Tyler originated the screen-tension concept, this service is backed by industry's broadest experience in producing screen sections—with special hook strips to maintain drum-head tension.

It's wise to order replacement woven wire cloth from Tyler—world's largest producer, with unequalled technical service to assure proper application. Call or write The W. S. Tyler Co., 3615 Superior Ave., Cleveland 15, Ohio.

TYLER

WOVEN WIRE SCREENS • SCREENING MACHINERY • TESTING SIEVE EQUIPMENT

▲ For more details circle **NED-558 L1** on enclosed inquiry slip ▲



Hytrol engineers start with the problem — a study of your facilities as related to the conveying job to be done. More often than not, your low-cost solution is found in a *unit or combination of standard units* in the Hytrol catalog: Powered belt models, horizontal and inclined, floor-to-floor models, portable stackers, boosters, wheel and roller conveyors, complete accessories. Speedy delivery through distributors in major cities.

HYTROL CONVEYOR CO., Inc.
1965 S. 54th Street
Milwaukee 19, Wisconsin

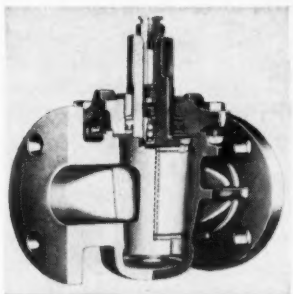
▲ For more details circle **NED-559 L1** on enclosed inquiry slip ▲

MINIATURE POTENTIOMETER
has 5-v range, 0.5-mv resolution

Self-contained and easily held in the user's hand, the Model PC PocketPot miniature direct current measuring potentiometer features direct readout. It incorporates a self-contained transistor amplified galvanometer and an internal battery operated reference source for standardization. Measuring range is 0 to 5.1 v, accuracy is ±0.05 per cent of reading or 0.5 mv, and resolution is 0.5 mv. Current ranges from 0 to 1 ma and additional ranges to 500 v are obtained by using it with the Model PC-S plug-in range extension unit of the same size and shape. The 3-lb unit measures 9 x 4¼ x 1¾ in. Price of Model PC is $450; Model PC-S is $175. • **Sensitive Research Instrument Corp.,** 310 Main St., New Rochelle, N. Y.

▲ For more details circle **NED-560 L1** on enclosed inquiry slip ▲

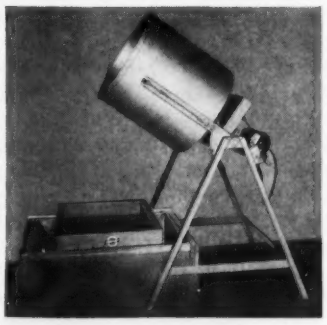
FLUID CONTROL VALVES
feature high lubricity plug coating



High lubricity plastic coating on tapered plug surfaces of Permaturn quarter-turn fluid control valves minimizes turning effort and contributes to maintenance-free operation. Valves handle such liquids as jet fuels, chemicals, water, and sewage. Those rated for 1000 psi pressure have a 0.0005-in. Teflon coating, whereas valves rated to 10,000-psi service are coated with phosphate-molybdenum disulfide. Fixed adjustment assembly used on low pressure valves maintains a constant tight seal after repeated openings. High pressure units feature a threadless stem that also minimizes operating torque. • **Rockwell Mfg. Co.,** Meter & Valve Div., 400 N. Lexington Ave., Pittsburgh 8, Pa.

▲ For more details circle **NED-561 L1** on enclosed inquiry slip ▲

PARTS TUMBLING MACHINE
for deburring, drying, cleaning



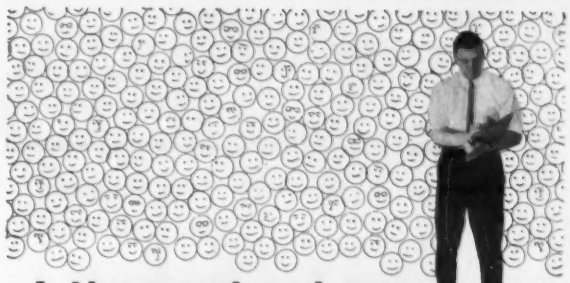
Compact Model PD-10 tumbling machine has a cylinder capacity of 6 cu ft and is driven by either a ⅓ or ½-hp motor. It can be used for deburring, burnishing, or cleaning operations, or for cob meal or sawdust drying of metal parts. The 160-lb machine has a simple lock pin mechanism for tilting to load, unload, and running positions. A 41 x 38 x 14½-in. separating bin with a variety of mesh size screens is optional, as is a neoprene lined cylinder. Price is under $400. • **Grav-i-Flo Corp.,** 400 Norwood Ave., Sturgis, Mich.

▲ For more details circle **NED-562 L1** on enclosed inquiry slip ▲

LIQUID LEVEL GAGES
six flush mounted, press fit types

Instant checks on oil levels to protect machines against wear or costly bearing failure can be made with this line of easily installed liquid level gages. The six flush mounted, press fit units consist of simple, porthole window types (with or without reflector back and oil level line) and column-type units which show oil level at a glance, even in dim light. The Observa-Dome gage makes level easy to read from side and front. Factory assembled units have clear glass windows for up to 50-psi service at 300° F, or plastic windows for 10-psi service at 100° F or 2 psi at 160° F. • **Gits Bros. Mfg. Co.,** 1866 S. Kilbourn Ave., Chicago 23, Ill.

▲ For more details circle **NED-563 L1** on enclosed inquiry slip ▲



A thousand and one reasons for installing USS Multigrip Floor Plate

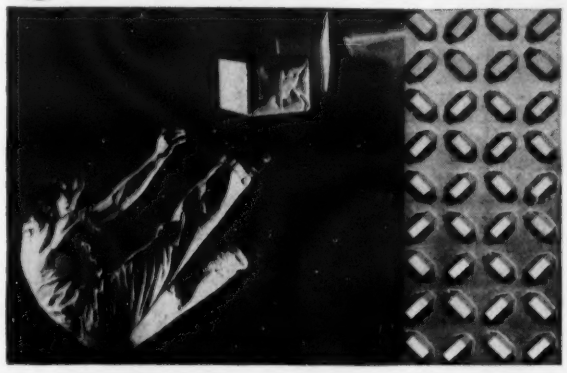
A thousand employees are a thousand reasons for installing USS Multigrip Floor Plate. You'll be protecting yourself, too. A rolled steel plate of quality, Multigrip gives positive traction, wet or dry. Protects floors with little wear or maintenance. Won't chip, splinter, or crack. You get fast delivery of any size from your Steel Service Center. For further information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

United States Steel Corporation • Tennessee Coal and Iron Division • Columbia-Geneva Steel Division • United States Steel Export Company

United States Steel USS TRADEMARK

▲ For more details circle **NED-564 L1** on enclosed inquiry slip ▲

This mark tells you a product is made of modern, dependable Steel.



$100,000 for a fall! *It's true that slips cost more than Multigrip.* Companies have been sued for $100,000 or more because of falls. Fortunately the average cost is less than this but many settlements run over $1,000.

Falls account for about 1 in 5 industrial injuries, but you can help eliminate many of the danger spots by starting a definite program of installing USS Multigrip Floor Plate on machine shop floors, aisles, cat-walks, stairs and other accident-prone areas. Workers like Multigrip—and so does management. For information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania.

United States Steel USS TRADEMARK

▲ For more details circle **NED-565 L1** on enclosed inquiry slip ▲

THIS FREE BOOK COULD HELP PREVENT AN ACCIDENT WHERE YOU WORK

United States Steel
525 William Penn Place
Pittsburgh 30, Pennsylvania

Please send me ____ copies of your free booklet, "USS Multigrip."

Name _____

Firm _____ Address _____

City _____ Zone ____ State _____

United States Steel USS TRADEMARK

▲ For more details circle **NED-566 L1** on enclosed inquiry slip ▲

Send for your FREE COPY today

Discover how Clipper hooks and lacers save time and money in Belt Lacing

Detailed product information on Clipper Belt Hooks and Lacers and case history examples of Clipper machine-lacing benefits are contained in this new folder. Send for Bulletin No. 157 today.

Clipper BELT LACER COMPANY

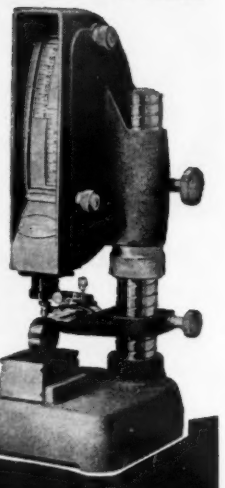
976 Front Ave., N. W., Grand Rapids, Michigan

Ask your Industrial Distributor for Clipper Products

For more details circle NED-567 L1 on enclosed inquiry slip

Leitz TOLERATOR
THE TRU-VISION
COMPARATOR GAGE

Capacity 6" Diameter



NOW AVAILABLE IN 2 MODELS:

STANDARD reading in .00005"

SUPER-PRECISION in .000025"

- Rapid quantity gaging between adjustable colored tolerance masks.
- Selective inspection from long range illuminated scale with 100 divisions.
- Variety of interchangeable anvils and contact tips.
- Instrument also available for internal gaging.

Request 8-page catalog 82-177

OPTO-METRIC TOOLS, INC.
137 NE VARICK STREET, NEW YORK 13, N. Y.

For more details circle NED-568 L1 on enclosed inquiry slip

BARRETT MODEL J-R SINGLE-STROKE LIFT-TRUCK

BARRETT Model J-R is the lowest priced work horse of ALL lift-trucks. Built for rough, hard handling jobs 2500- to 4000-lb. capacity loads from 30" to 72" long. Lift 1⅛" to 2⅝" standard. ONE STROKE raises skid—step on release treadle and hydraulic check lowers load gently.

Barrett Model J-R fits any type skid—just run truck under skid. One handle stroke lifts.

WRITE FOR LOW PRICES AND BULLETIN 555-1

BARRETT-CRAVENS COMPANY
650 Dundee Road, Northbrook, Illinois
Representatives in All Principal Cities

BARRETT
ONE MAN DOES MORE THAN 3 OR 4 ...WITH A BARRETT

For more details circle NED-569 L1 on enclosed inquiry slip

CABINET OVENS have 150 to 500° F range

Batch production, limited production runs, or experimental work requiring 150 to 500° F heat can be performed in this line of compact cabinet ovens, available with gas or electric heat. Four sizes have interior dimensions from 2 x 2½ x 2½ ft to 3 x 4 x 2½ ft, with heat outputs of 40,000, 61,000, and 100,600 Btu per hour. Both atmospheric and premix type ovens are produced in gas-fired models. Features include 4-in. Fiberglas insulation, two sliding shelves and additional shelf guides, horizontal heat flow, gravity type exhaust, and direct reading automatic temperature control. Recording type controller is an accessory. • **DeVilbiss Co.**, 300 Phillips Ave., Toledo 1, Ohio.

For more details circle NED-570 L1 on enclosed inquiry slip

MULTIPLE-USE TESTER for tensile, pressure, bending tests, has 5-mg to 50-ton range

Linear deformation speed of this 5 mg to 50-ton multitester is independent of the resulting load and may be varied from 1 to 1000 mm per minute. Load heads may be exchanged during a test. Deformation loads are directly shown on recording paper, with time indicated by a second curve. A third curve, or Z axis, can be added to record temperature or thickness change conditions. Deformation is indicated by a change of distance between sample clamps with ratios of 5:1, 1:1, or 1:5. Additional equipment extends the ratios from 10:1 to 1000:1.

The 10½-ft high tester operates on 220-v ac and performs tensile, pressure, and bending tests on a variety of substances. Long standing tests can be performed for any length of time. Loads can be oscillated between two load or deformation limits. Testing at above or below ambient temperatures and with varying humidity conditions is possible. • **American Optical Co.**, J. W. Fecker Div., 6592 Hamilton Ave., Pittsburgh 6, Pa.

For more details circle NED-571 L1 on enclosed inquiry slip

measurement and control
OF PRESSURE AND DIFFERENTIAL PRESSURE

DELTADYNE® SWITCHES
Pat. No. 2,942,572
Adjustable for signalling pressure and differential pressure from 0.25" wc to 200 psi (or psid) in systems to 5000 psi and −65° to +275°F; leak-proof. Units sound alarm, light bulb, turn motor on or off, operate valves—remotely or in place. **$40 to $75**

DELTADYNE INDICATORS
Adjustable and non-adjustable. Actuation 0.01 to 100 psi (or psid). For same pressure/temperature as switches. Red button pops to give visual indication of overpressure. **$22 to $85**

DELTADYNE GAUGES

For system pressures to 3000 psi; indication from 0 to 60 psi differential; leak-proof—no moving seals; high-visibility scale. **$92**

Extended pressure and temperature ranges available in all instruments.

NEW DESIGNS!

NEW ACCURACY!

OFF-THE-SHELF OR CUSTOM-ENGINEERED FOR

- Hydraulic/pneumatic systems (airborne, ground support, industrial)
- Process industries (chemical, petroleum, fuels)
- Equipment manufacturers (fluid handling)

Read or control tank levels, and pressure drops across filters, heat exchange orifices for flow metering, gas adsorbers and many other types of equipment. Learn more about the cost and service advantages of these units.

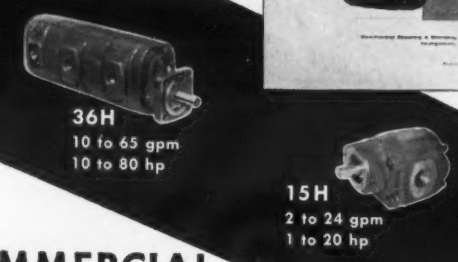
WRITE FOR COMPLETE LITERATURE

PALL
PALL CORPORATION • GLEN COVE, N. Y.

For more details circle NED-572 L1 on enclosed inquiry slip

FREE

2000 psi



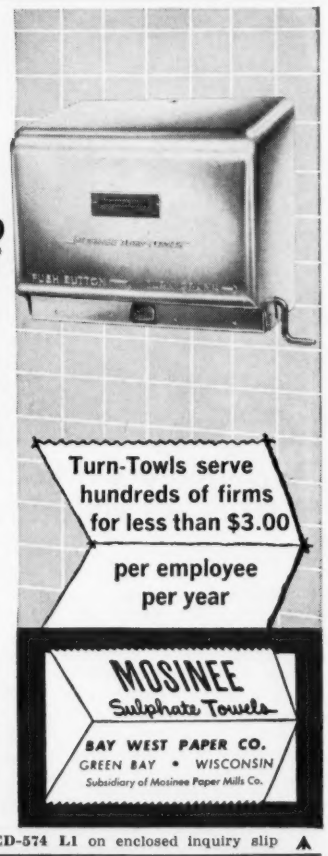
COMMERCIAL Fluid Power Pumps-Motors for Heavy Duty O.E.M.

Bulletins 100-P6 and 100-P7 now available. Write to Commercial Shearing & Stamping Company, Dept. J-45, Youngstown 1, Ohio.

COMMERCIAL shearing & stamping

For more details circle NED-573 L1 on enclosed inquiry slip

What do washroom towels cost your company?



Combining high-quality towels and controlled dispensing, Turn-Towls cut costs wherever they're in service. Here are typical savings:

Annual towel costs dropped from $480.00 to $196.00 after a North Carolina manufacturer put Turn-Towls to work.

A New Jersey firm reduced per employee towel costs from $2.52 to $1.94 by switching to Turn-Towls.

Easier dispenser maintenance provides still more savings. The exclusive polished aluminum cabinet won't rust, chip, wear out. (Leased free for use with Turn-Towls.)

For free Turn-Towl Test Kit, consumer reports on how other companies save with Turn-Towls, write Dept. 1084.

For more details circle NED-574 L1 on enclosed inquiry slip

THOMSON "Snap-In" **NYLINERS**
—BEARINGS of smooth, tough DuPont NYLON

COST less to BUY ...less to INSTALL ELIMINATE LUBRICATION!

Additional Benefits:

- CLOSE FIT
- LONGER LIFE
- EASILY INSTALLED
- LESS SERVICING
- SELF-RETAINING
- RESIST CORROSION
- LOW FRICTION
- RESIST POUNDOUT
- NO FRICTION OXIDATION
- DAMP VIBRATION
- OPERATE IN LIQUIDS
- NON-CONTAMINATING
- INSTANTLY REPLACEABLE
- RESIST ABRASION
- MINIMUM SPACE
- SILENT OPERATION
- LIGHTEST WEIGHT
- REDUCED WEAR

NYLINER Bearings are a highly engineered thin liner of DuPont Nylon, designed to bring bearing users the many benefits of Nylon as a bearing material by solving most of the limitations surrounding its use. The compensation gap principle assures maintenance of diametral tolerances for precision applications.

Seven Standard Types available from stock. Write for literature and name of your local representative who stocks NYLINER Bearings for immediate shipment.

THOMSON INDUSTRIES, Inc.
DEPT. 9, MANHASSET, NEW YORK

Also—Manufacturers of BALL BUSHINGS . . . the Ball Bearing for Linear Motions and 60 CASE . . . Hardened & Ground Steel Shafting

For more details circle NED-575 L1 on enclosed inquiry slip

FREE COPY

NEW VARIABLE SPEED CATALOG

Here's all you have to know about fhp variable speed. Explains the Zero-Max principle with pictures and diagrams of uses. Describes over 30 basic models and types of Zero-Max drives which deliver 0 to 1200 rpm and up to 450 in. lbs. torque.

WRITE FOR YOUR FREE COPY TODAY!

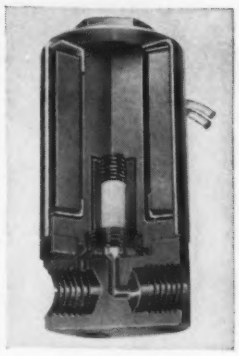
ZERO-MAX

The ZERO-MAX Company

2855 Harriet Ave. S., Minneapolis 8, Minn. • TAylor 7-5521

▲ For more details circle NED-576 L1 on enclosed inquiry slip ▲

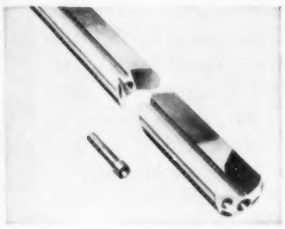
SOLENOID VALVE
miniature normally-closed type



Direct actuation, up to 3000 psi operation, explosionproof case, and bubble-tight sealing characteristics are features of this miniature solenoid shutoff valve with 1/16-in. orifice. The two-way, normally-closed unit is available with nylon or Kel-F poppets which open against high pressure with negligible solenoid pull. Low amperage coil is rated for continuous duty with either ac or dc voltages and operates from −40 to 160° F. A Class H coil for higher temperatures is available, as is a choice of grommet, conduit, or AN electrical connections. An explosionproof version is offered. • **Circle Seal Products Co.**, 2181 E. Foothill Blvd., Pasadena, Calif.

▲ For more details circle NED-579 L1 on enclosed inquiry slip ▲

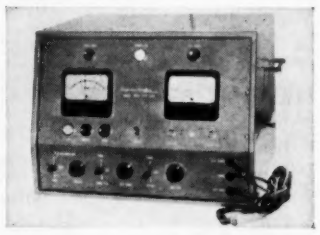
GUN DRILLS
have quick-change detachable head



Detachable head of these gun drills permits quick, easy replacement and convenient resharpening of the cutting head without removing the shank from the machine. Head is securely joined to the shank in a V-type assembly by means of a socket head cap screw. Drills are available in center-cut as well as target-type design. • **National Twist Drill & Tool Co.**, National Square, Rochester, Mich.

▲ For more details circle NED-580 L1 on enclosed inquiry slip ▲

ELECTRICAL TEST SET
checks motors, heaters, transformers



Self-calibrating Model 8522 test set is quickly set up for production testing of motors, heaters, transformers, resistors, and cables for high voltage breakdown, continuity, and resistance. High voltage breakdown tests are made at any value from 0 to 2.5 kv ac, with automatic readout of leakage current and insulation breakdown, on separate signal lights. Continuity and resistance are indicated on direct reading scales of 0 to 50 and 0 to 500 ohms. Readout circuits for the three values can be used for actuating external reject mechanisms in automated test setups. Set operates on 115 v, 50/60 cycle ac. • **Associated Research, Inc.**, 3777 W. Belmont Ave., Chicago 18, Ill.

▲ For more details circle NED-581 L1 on enclosed inquiry slip ▲

developed specifically for industrial & commercial use!

A NEW All American PLANT LOCKER

for PACKING PLANTS • LOCKER PLANTS • FOOD PROCESSORS • CANNERIES • GARAGES • PAINTERS • CLINICS • LABORATORIES • MANUFACTURERS • RESTAURANTS

Fully ventilated on 3 sides to provide maximum air circulation and faster, fresher drying, this new All American Locker is the perfectly practical solution for storing clothing and uniforms in plants and institutions where odors and dampness create a storage problem. Clothing hangs loosely where fresh air circulates freely through them to speed up drying time and eliminate offensive odors.

The Plant Locker is built to provide:

- ROOM, LIGHT, CLEANLINESS
- COMPLETE ADAPTABILITY
- ATTRACTIVE APPEARANCE
- RUGGED STRENGTH AND LONG LIFE
- SAFE PROTECTION

Write today for complete specifications, quotations and prices!

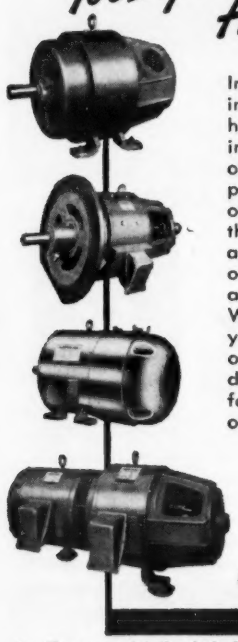
DeBourgh MANUFACTURING Co.

Dept. E • 2924 27th Avenue South • Minneapolis, Minnesota

▲ For more details circle NED-582 L1 on enclosed inquiry slip ▲

IMPERIAL D-C MOTORS

for Dependable Heavy-Duty Service



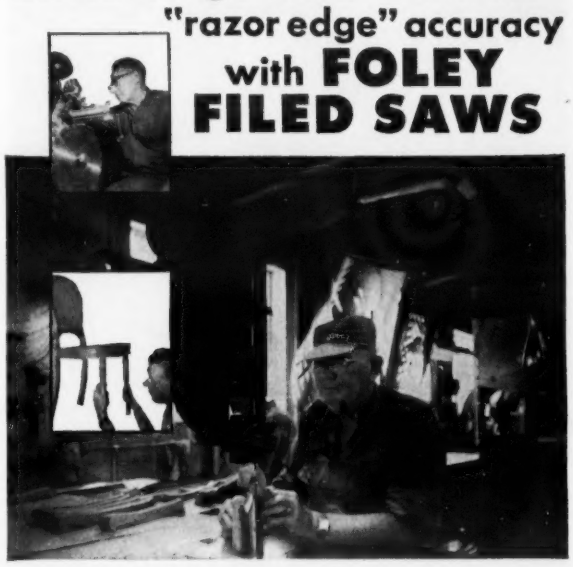
Imperial D-c Motors meet the ever-increasing demand for dependable, heavy-duty drives in nearly every industry today. Over seventy years of d-c design and application experience is behind the manufacture of these motors. Ratings from 1 through 125 hp., for constant or adjustable speeds with shunt, series or compound windings are available in all standard enclosures. When you choose **The Imperial Line** you are assured of motors that stay on the job longer . . . keeping production high at lower costs. Write for bulletin or contact the sales office nearest you.

IMPERIAL ELECTRIC COMPANY

84 Ira Avenue • Akron 9, Ohio

▲ For more details circle NED-577 L1 on enclosed inquiry slip ▲

Grand Ledge Chair Co. holds "razor edge" accuracy with FOLEY FILED SAWS



Manufacturing top-quality chairs at the Grand Ledge Chair Company in Grand Ledge, Michigan, calls for clean, close tolerance saw cuts. Charles W. Aderman, factory manager, reports: "Foley sharpened saws enable us to cut curved sections such as chair arms and backs with ease, accuracy and a minimum of 'washboarding'."

The Foley Model 200 can sharpen the company's seven band saws, four circular saws and two hand saws in one afternoon. Changeover and fine adjustments are made quickly and accurately on the Model 200. Automatic, precision sharpening adds to the efficiency of Grand Ledge's blade maintenance—no waiting for blades sent out—complete quality control on every saw tooth filed.

Why not see for yourself how the convenience and savings of a Model 200 saw filer can help your plant? Send the coupon for literature on Foley industrial saw filing applications and complete details on the Foley thirty-day free trial offer.

FOLEY MANUFACTURING COMPANY
3323 N. E. 5th Street
Minneapolis 18, Minnesota

I'm interested! Please send industrial saw filing literature and details on 30-Day Trial Offer.

NAME: _____

FIRM: _____

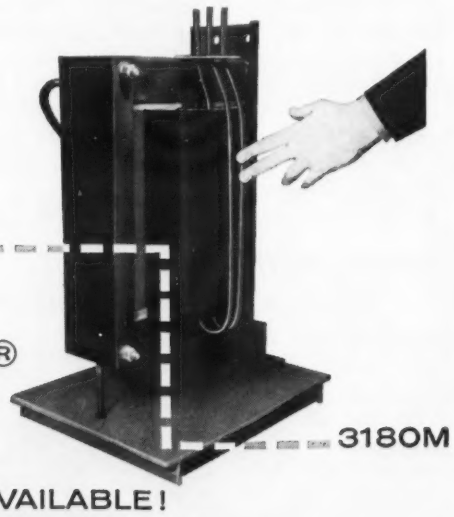
ADDRESS: _____

CITY: _____ STATE _____

▲ For more details circle NED-583 L1 on enclosed inquiry slip ▲

Are YOU using costly EPOXIES...
in ordinary circuit applications?

Now



NEW, MULTI-PURPOSE
STYCAST®
3180M

LOWEST-COST FORMULATED EPOXY AVAILABLE!

Why waste dollars on expensive epoxies . . . or . . . rely on downright inferior materials? STYCAST® 3180M — an extremely low-cost, epoxy-type casting resin — was developed especially for YOU in the electrical field. A two-part system (one black — one white) STYCAST® 3180M is ideally suited to production techniques. Equal parts, by weight or volume. Easily handled by production dispensing equipment — or manually in small batches. Resistance to moisture comparable to best known epoxy systems. Exceptionally good thermal stability. Low viscosity. Room temperature or fast oven cure.

For the answer to an extremely effective job at lowest possible cost, send for Technical Bulletin #7-2-24 . . . complete data on STYCAST® 3180M.

Emerson & Cuming, Inc. Plastics/Ceramics for Electronics

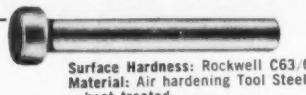
Canton, Massachusetts • 604 W. 182nd St. (Gardena), L.A., California

▲ For more details circle NED-578 L1 on enclosed inquiry slip ▲

DURANT TOOL

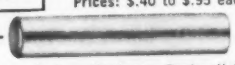
HEADED PINS...

Surface Hardness: Rockwell C58/60
Material: Tool Steel
Sizes: 109 Sizes in std. 2" lengths
Prices: $12.00 to $25.00 per C
Heads left soft
Extra long lengths — up to 6" — available



EJECTOR PINS... (Forged heads)

Surface Hardness: Rockwell C63/65
Material: Air hardening Tool Steel, heat treated
Sizes: 13 Body Dia., Head Dia. and Head Heights in 4" to 10" lengths
Prices: $.40 to $.95 each



MINI-DOWEL PINS...

Surface Hardness: Rockwell 62/64
Core Hardness: Rockwell C47/53
Material: Heat Treated Alloy Steel
Single Shear Strength: 160—180,000 P.S.I.
Sizes: 3 diameters, 35 lengths diameters .0002 over
Prices: $3.95 to $16.60 per C
Micro finish RMS 6

All Durant Pins are precision ground to close tolerances and honed to the finest surface finish. No pickup — uniformity guaranteed. Durant manufactures and stocks all types and sizes for immediate delivery in any quantity. They are available through our distributors or you may order direct.

Write for information on initial stock plan and for free folder, including prices and distributors in your area.

DURANT TOOL CO.
17 THURBERS AVENUE, Providence 5, Rhode Island

For more details circle **NED-584 L1** on enclosed inquiry slip

NEW "BUILDING BLOCK" UNITS for ULTRASONIC MACHINING

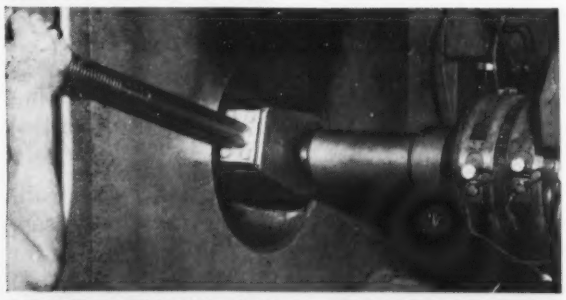
Sheffield-Cavitron® offers a complete line of ultrasonic generators, work heads, tooling, work-holding devices and automatic loading and cycle controls. You can begin with a single unit, as simple as the one shown, (which dices small lots of semi-conductors) and work stations can be added as needed, to the original generator, with greatest economy . . . Write for bulletin H7-59 "Machining the Unmachinable."

The **SHEFFIELD** *Corporation • Dayton 1, Ohio*
A subsidiary of The Bendix Corporation

For more details circle **NED-585 L1** on enclosed inquiry slip

SWENCH® MANUAL IMPACT WRENCH

is a wrench like no other — and will work where no other can. Loosens frozen nuts and bolts in seconds . . . tightens with precise accuracy every time. Completely portable — safely handles more bolt sizes than any comparable power wrench. Costs less. Read how it saves.



CUTS DOWNTIME—SAVES $4000

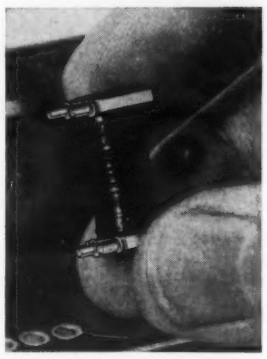
In plastic plants, the hex nuts that hold injection nozzles in place have a way of freezing tight. One plant figured on 36 hours downtime to sledge them loose. Power impact wrenches could not be used: not enough room. With the hand operated SWENCH — seven impacts and the first nut came free. Thirty minutes and the entire job was done — at a saving of $4,000! SWENCH works anywhere — gives you more power with greater safety. Sizes from ½" to 1½" square drives. See your local distributor or write for free booklet.

AS HO 32-34 C

MARQUETTE DIVISION
CURTISS-WRIGHT CORPORATION
1145 Galewood Drive, Cleveland 10, Ohio

For more details circle **NED-586 L1** on enclosed inquiry slip

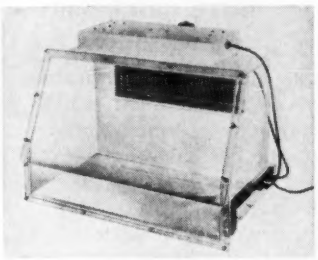
RELAY MODULE
easily installed in printed systems



Single-pole single-throw, normally-open dry reed switch rated at 12 va up to 250 v ac resistive is utilized in the basic Doranic relay module to provide high speed and long life. Up to 12 switches can be operated by the same coil. Connecting pins for both coil and switch are secured to the square ends of the nylon bobbin on which the operating coil is wound. The ⅜ x ⅜ x ⅞-in. unit operates within 1.5 to 3 milliseconds at coil power of 0.1 to 0.4 w. Coils are furnished for 6, 12, 24, 32, and 48-v dc operation. • **D. Randall Co.**, 6 Pawcatuck Ave., Westerly, R. I.

For more details circle **NED-587 L1** on enclosed inquiry slip

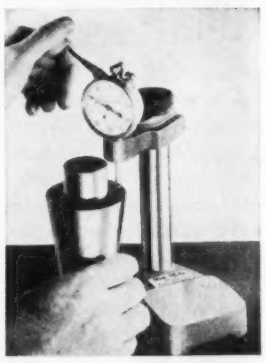
PORTABLE STERILE CABINET
for dust-free assembly, repair



Applications for this lightweight, portable Cleannaire sterile cabinet range from dust-free assembly of electronic equipment in white rooms to protecting delicate instruments in the abrasives industry. Fluorescent light is mounted on top exterior of cabinet, made of clear acrylic plastic with translucent white acrylic for diffusing light on work area. Blower-filter arrangement assures filtration down to 0.5 micron. Plunger switch completes electrical connections and starts positive blower pressure of 50 cfm when the night cover is removed. Standard unit measures 35 x 29 x 22 in.; special sizes and multiple-cabinet fabrications are available. • **Plastigage Corp.**, 915 E. South St., Jackson, Mich.

For more details circle **NED-588 L1** on enclosed inquiry slip

HEIGHT GAGES
measure, check, and compare sizes



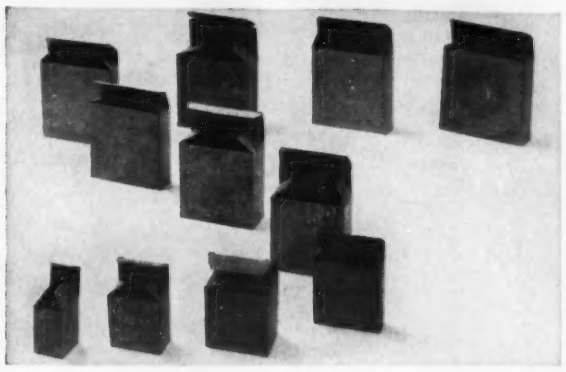
Three models of the Hite-Mike are equipped to function as a height standard for establishing and transferring height measurements, as a bench micrometer for size measurement, as a comparator for checking size, and as a bench gage for measuring size. Models with a 1-in. micrometer head and ½ or 1-in. dial indicator are offered. They consist of a 1-in. high base with chrome plated and lapped top surface and a 6-in. high column holding five 1-in. stainless steel gage blocks. Measuring devices are held in a yoke that fits over any block on the column for 360-degree positioning. Micrometer head reads in 0.001 in., and the dial indicators in 0.001 and 0.0001 in. Respective prices are $98, $98, and $158. • **Brown & Sharpe Mfg. Co.**, Industrial Products Div., Providence 1, R. I.

For more details circle **NED-589 L1** on enclosed inquiry slip

INTAKE FILTER-STRAINERS
for use with hydraulic equipment

Equipped with two replaceable Monel elements available in five mesh sizes, Twin Life line of intake filter-strainers is easily cleaned and serviced. Iron particles are trapped by an optional Magfield Alnico magnet which can be added at any time. Also optional is an expanded metal guard to protect the strainer assembly. Five mesh capacities have flow rates of 5 to 50 gpm. A 140-micron (100 mesh at 0.0046-in. opening) is standard, and 10 to 238 micron ratings may be specified. • **Michigan Wire Cloth Co.**, 2100 Howard St., Detroit 16, Mich.

For more details circle **NED-590 L1** on enclosed inquiry slip



64 SIZES IN KRAFT FOLDING BOXES

Extra large inventory assures broadest choice, lowest prices, fastest delivery. Partial list of uses, includes machine parts, metal parts, plastic parts, bearings, auto parts, nursery products, hardware. Sizes range from ⅞" x ⅞" x 1" up to 5¾" x 5¼" x 7".

Ask for free samples, with sizes and price list.

Spark* makes the difference

STONE CONTAINER Corporation
Campbell Division
903 S. Main St., South Bend 23, Ind.
General Offices: 360 N. Michigan Ave., Chicago 1, Ill.

* Stone Packaging And Research Know-how

For more details circle **NED-591 L1** on enclosed inquiry slip

NEW ONE-MAN POWER OPERATED DRUM LIFT

FOR CONTROLLED POURING OF

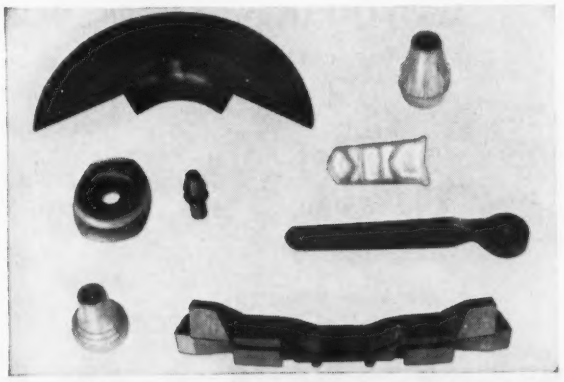
• ACIDS • PLASTICS
• CAUSTICS
• VISCOSE MATERIALS

LIFTING CAPACITY 750 POUNDS

Developed by demand in industry where the need has arisen to lift drums and empty contents from heights of 7' to 8', the new Sterling Fleischman Power Operated Drum Lift will raise drum to 95" from floor to bung in just 30 seconds. Easily maneuverable in cramped quarters and ideal for operation in areas with a minimum of headroom. These units are available in AC or battery operated Power Packs. Design features assure self-locking control at any pouring angle and use with either steel or fibre drums. For complete details on power operated or foot operated Sterling Fleischman Hydraulic Drum Lifts, write: Dept. NED-11

STERLING FLEISCHMAN COMPANY
109-11 Main St., Morton, Pa.

For more details circle **NED-592 L1** on enclosed inquiry slip



CUSTOM MOLDED RUBBER

to meet your specifications

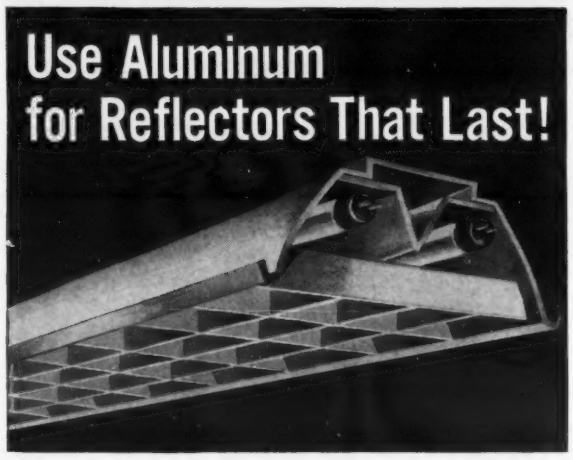
Natural rubber, synthetics or special-use compounds can be custom molded, latex or plastic dipped, in many sizes and shapes — bulbs, stopples, balls, gaskets and many other special parts. Complete laboratory and production facilities available to compound and color-match custom molded rubber to your exact specifications. Sales representatives in most industrial areas are ready to discuss your requirements. For complete information, write to: **Dept. M-R, Industrial Division.**

Faultless

THE FAULTLESS RUBBER COMPANY • ASHLAND, OHIO

For more details circle **NED-593 L1** on enclosed inquiry slip

Use Aluminum for Reflectors That Last!

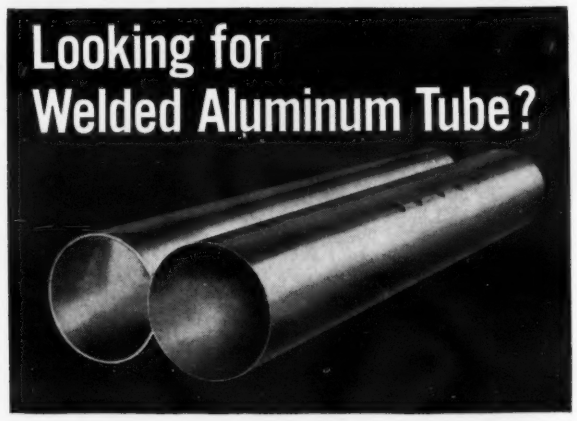


Alcoa® Lighting Sheet with the famous Alzak® finish makes the best reflectors for lighting fixtures. Both diffuse and specular surfaces defy corrosion for lasting reflectivity. Call your nearest Alcoa distributor or Alcoa sales office.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-594 L1 on enclosed inquiry slip

Looking for Welded Aluminum Tube?

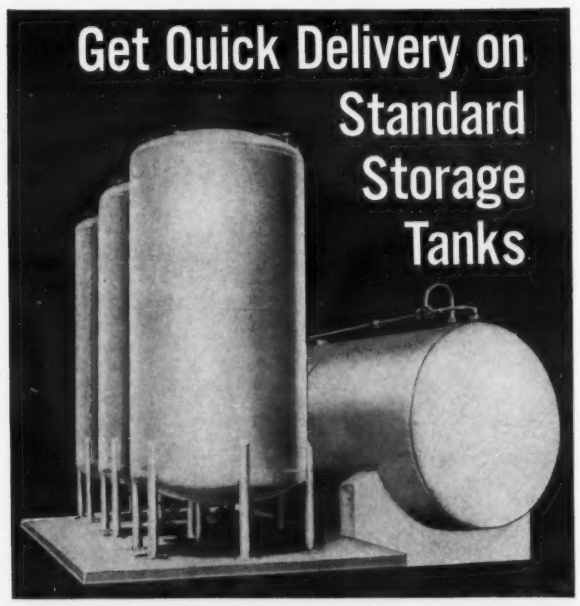


Alcoa's Jobbing Division makes it in a wide range of wall thicknesses, diameters and lengths. High-volume runs or custom-engineered small runs. Latest automatic welding equipment meets aircraft, military and code requirements, assures thin-wall tube to close tolerances. Call your nearest Alcoa sales office for design and engineering help.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-595 L1 on enclosed inquiry slip

Get Quick Delivery on Standard Storage Tanks

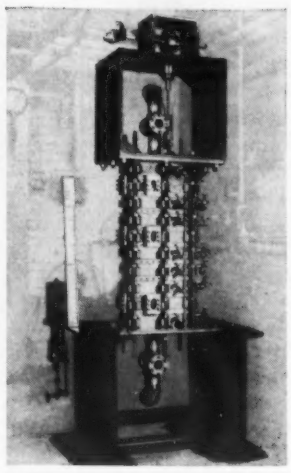


Alcoa's Jobbing Division puts them together quickly from stocked parts . . . cuts delivery time. Sizes from 5,800 to 21,400 gal. Horizontal or vertical. Specials, too. We build pressure vessels to your requirements, give you design and engineering help. Call your nearest Alcoa sales office for details.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-596 L1 on enclosed inquiry slip

MULTISTAGE LIQUID EXTRACTOR
pilot plant mixer-settler type solves complex extraction problems



Intended for pilot-plant studies and for small-scale production, this multistage liquid-liquid extractor determines the equilibrium and operating lines for any type liquid-liquid extraction process. It consists of 20 shallow mixer-settler stages placed one upon the other, with each stage being 98 to 100 per cent efficient.

Provision is made for sampling both phases leaving each stage, for antisolvent injection on each stage, and for feed introduction on any stage. Extractor has stainless steel construction for pressures to 600 psi and provides feed rates up to 2 gph. Integral heat transfer arrangement controls extraction temperature. Uniform mechanical mixing prevents phase by-passing, and mixing intensity can be varied to avoid emulsification.

Assembly, as shown, has ten two-stage extractor decks, with an interstage heating-cooling plate between each deck. It is held together with six tie rods and mounted on a rigid base. • **Pennsylvania Tool & Mfg. Co.**, Hartman & Wellington Streets, York, Pa.

For more details circle NED-597 L1 on enclosed inquiry slip

INDEXING DRIVE UNIT
available with 4 to 24 stops for synchronizing with other equipment

Cycling precision conveyors, transfer chassis, and dial indexing machines are applications for this smooth, shockless indexing drive unit which has an accuracy of 0.001 in. on a 12-in. diameter sprocket or dial. Preloaded roller bearing followers have zero backlash in dwell position. Drive is offered with 4 to 24 output shaft stops. Indexing periods of 90, 120, 180, and 270 degrees permit selective cycle timing of index and dwell.

Double ended input cam shaft allows synchronization with tooling, actuators, and cam switching interlocks. Output shaft diameter up to 5½ in. is available for direct mounting of a sprocket or rotary dial. Unitized assembly can be equipped with an integral shaft-mounted reducer on the cam input shaft, coupled to an electric clutch-brake unit for infinite dwell and timing. • **Visi-Trol Engineering Co.**, 12720 Burt Rd., Detroit 23, Mich.

For more details circle NED-598 L1 on enclosed inquiry slip

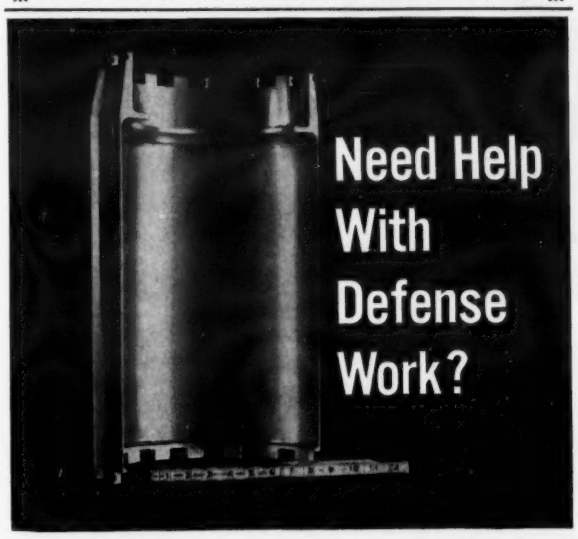
Lower Costs With Alcoa Aluminum Shipping Drums

Lightweight, strong Alcoa® Aluminum shipping drums increase payloads, cut dead weight, save on labor and handling. Nonscaling, nonsludging, noncontaminating, chemically neutral to a wide range of liquids and food products. 55-gal general-purpose drum . . . open-top model in 29-, 45- and 55-gal sizes. Call your nearest Alcoa sales office.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-599 L1 on enclosed inquiry slip

Need Help With Defense Work?



Alcoa's Jobbing Division, with complete aluminum design, engineering and fabricating facilities, can help you meet production schedules. We're experienced in missile parts. Above section for U.S. Air Force missile roll-spun from a preformed part by Alcoa Jobbing Division. Call your nearest Alcoa sales office to get jobbing help.

ALCOA ALUMINUM
JOBBING DIVISION

For more details circle NED-600 L1 on enclosed inquiry slip

Need Aluminum Design and Fabrication Help? Alcoa's Jobbing Division Can Provide It.

If you need specialized equipment or personnel for any kind of aluminum design and fabrication, call on Alcoa's Jobbing Division. We're fully equipped to do one-of-a-kind "specials," long-run productions, or the *unusual*, including defense work.

The Jobbing Division, utilizing new developments, new processes in aluminum, is ready to help with that unusual job that may be giving you a headache. Save tooling costs and investment in additional equipment. Call your Alcoa sales office and ask about the Jobbing Division's services that can help you right now.

FREE 16-page booklet. Mail coupon for illustrated booklet describing the Alcoa Jobbing Division's fabricating facilities and design assistance that are ready to work for you. They are the world's finest.

ALUMINUM COMPANY OF AMERICA
859-L Alcoa Building, Pittsburgh 19, Pa.

Please send my free copy of *Aluminum Fabricating Facilities of the Alcoa Jobbing Division.*

NAME _____ TITLE _____
COMPANY _____
STREET ADDRESS _____
CITY _____ ZONE _____ STATE _____

ALCOA ALUMINUM
JOBBING DIVISION

ONE TRACTOR POWERS 30 GROUNDS MAINTENANCE TOOLS!

The versatile 6.6 HP Gravely Tractor powers a complete, year-round maintenance system! You cut costs two ways: (1) You buy only ONE power unit—with a choice of 30 quickly interchangeable Tools; (2) The Gravely does your jobs faster, easier, more economically! Standardize on Gravely — as many cost-conscious Plant Executives have! Gravely gives you more power at the Tool through direct, all-gear Drive. Simple, precise control, low-cost dependable power for year-round work. Tools that do your jobs more efficiently!

FREE CATALOG & CIRCULAR

Find out why and how Gravely does the job best. Write TODAY for "How to Cut Grounds Maintenance Cost" and Gravely Catalog!

GRAVELY TRACTORS, INC.
Division of Studebaker Corporation
P.O. BOX 668-L DUNBAR, W. VA.

PERFORMANCE-PROVED SINCE 1922

For more details circle NED-603 L1 on enclosed inquiry slip

New Faultless Pivot Bearing Sockets

Now, in an all-new inexpensive socket, Faultless combines the advantages of grip-neck caster retention in furniture with easy-swiveling top bearing surface. With Faultless Pivot Bearing Sockets, your light wood or metal furniture will have casters that stay securely in place without wobbling, and still turn and move easily. Yet, these *NEW Faultless Pivot Bearing Sockets* cost no more than ordinary grip neck sockets. Write for full particulars.

NOELTING Faultless Casters

Faultless Caster Corporation
Evansville 7, Indiana
Branch offices in principle cities; see the Yellow Pages of the telephone book under "Casters." Canada: Stratford, Ontario.

For more details circle NED-604 L1 on enclosed inquiry slip

WHEREVER SOMETHING STICKS

Modern Packaging Engineers Use

IMS SILICONE FLUID SPRAY

WHEREVER ANYTHING STICKS TO METAL SURFACES—ON FILM SEALERS, CRIMPER JAWS, EMBOSSING ROLLS, PANS; STAMPING, FORMING DIES—MOLDS OF ALL KINDS

SIMPLY SPRAY ON THIS PURE SILICONE FLUID COATING
And your sticking problems are over!

The most economical way to apply costly Silicone Release Agents!

SAFE — NON-TOXIC
CLEAN — LONG LASTING

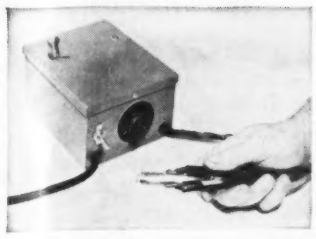
Handy Self Dispensing Can
Has No-Fumble, Speedy Spray Head

PRICES (Delivered)
Sample Can $2.00
Per Unbroken Dozen $18.00
Per Unbroken Gross $197.40

INJECTION MOLDERS SUPPLY CO.
17601 So. Miles Rd. Cleveland 28, O.

For more details circle NED-605 L1 on enclosed inquiry slip

THERMAL WIRE STRIPPER used with small gage wire

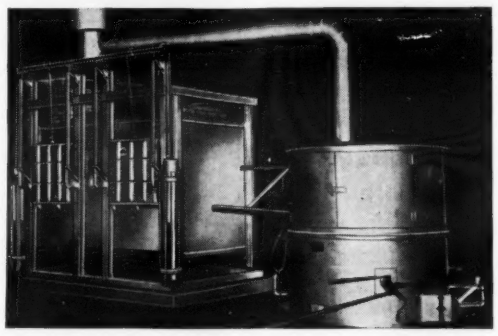


Teflon and other high temperature insulations, as well as lower melting vinyl, polyethylene, and other materials are stripped from No. 16 to 40 gage wire by the Model G-1 Tiny-Therm miniature thermal wire stripper. Used without adjustment for wire size, its tweezers, which hold the stripper electrodes, are suited for use in close quarters. Stripper is about 5 in. long. Pincers type heated filaments grasp the wire to sever then pull the insulation off the wire. Heat control on separate continuous-duty power supply allows regulation of filament temperature for any type of insulation. Price is $74.50. • **Western Electronic Products Co.**, 2420 N. Lake Ave., Altadena, Calif.

For more details circle NED-606 L1 on enclosed inquiry slip

SWEAT FURNACE separates metals in bimetallic scrap

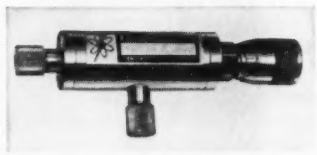
Nonferrous metals bonded to other metals are recovered in this Warwick sweat furnace, built in sizes to handle from 200 to 2000 lb per hour. It can be gas,



oil, or oil-gas fired. Bimetallic scrap is fed into the first furnace onto a hearth where the appropriate temperature is applied to melt the lower-melting-point metal and flow it off into a second (holding) furnace where it can be processed, refined, and poured into pigs. Metal remaining in the sweat furnace is then removed and the process repeated. Furnace is suitable for reclaiming die castings with steel inserts, or permanent mold castings, such as automotive pistons with steel struts. • **Warwick Industrial Furnace & Engineering Corp.**, 9219 Park Ave., Franklin Park, Ill.

For more details circle NED-607 L1 on enclosed inquiry slip

METERING VALVE adjusts vacuum vessel pressure



Gas handling, pump speed measuring, and vacuum control are among applications for the VV-50 Vari-Vac precision metering valve. It adjusts pressure in vacuum vessels to as low as 10^{-7} mm Hg with flow rates from 0.01 to 5 cc per second. Valve is available in nickel-plated brass or stainless steel with quick-connect or sweat fittings. Stem assembly is bellows sealed. • **Vactronic Lab. Equipment, Inc.**, East Northport, N. Y.

For more details circle NED-608 L1 on enclosed inquiry slip

DIAL TIME SWITCHES control night lighting systems

Intermatic V25000 Series of astronomic dial time switches turns factory, display, parking lot, and other lighting systems on at sunset and off at sunrise, or any other preselected time. Switch automatically adjusts itself throughout the year for daily changes in sunset and sunrise times. Cut-out dial also allows skipping of operation on selected days. Double-pole single-throw and single-pole double-throw switches for 120 or 240 v are rated at 40 amp per pole. Heavy-duty timing motor operates in extreme temperatures. Manual control with automatic reset is provided. • **International Register Co.**, 2624 W. Washington Blvd., Chicago 12, Ill.

For more details circle NED-609 L1 on enclosed inquiry slip

For Accurate TEMPERATURE RECORDS at MODERATE COST

Use TEMPSCRIBE Recorders

BULB-TYPE (illustrated)—*For recording temperatures at a distance*
BI-METAL TYPE — *For recording temperatures in surrounding air*

- Portable—easily carried. Can be set on flat surface or hung on wall.
- Spring-wound instrument-type clock: 3 standard movements—8 hours, 24 hours or 7 days.
- Instrument measures 4½" x 5½" x 7½"; uses 4¼" diameter charts.
- Chart graduations easy-to-read; spaced uniformly over full range.
- Pen and its actuating components are in door. Doors are completely interchangeable to convert to any temperature range, or from bi-metal type to bulb-type.

Also available: (1) Interchangeable door with electro-magnetic armature to record running time of motors, burners, solenoid valves, etc. (2) Two-pen doors for recording temperature and electrical operation on same chart.

Write for Leaflets 786 and 872

BACHARACH INDUSTRIAL INSTRUMENT CO.
200 N. BRADDOCK AVE. • PITTSBURGH 8, PA. T-25

For more details circle NED-610 L1 on enclosed inquiry slip

INVESTIGATE!

BEAM LP-Gas CARBURETION

BEAM CARBURETION SYSTEMS

- Easiest to Install
- Most Compact in the Industry
- Offer Many Exclusive Advantages

For instance, the Beam Model 60 Vaporizer-Regulator is only 4" in diameter, 3" thick and weighs 24 oz. It handles all engines up to 60 hp. The Beam "Water-Runner" installation system saves time, cost and space.

Beam has the most extensive line of complete, ready-to-install carburetion systems in the Industry.

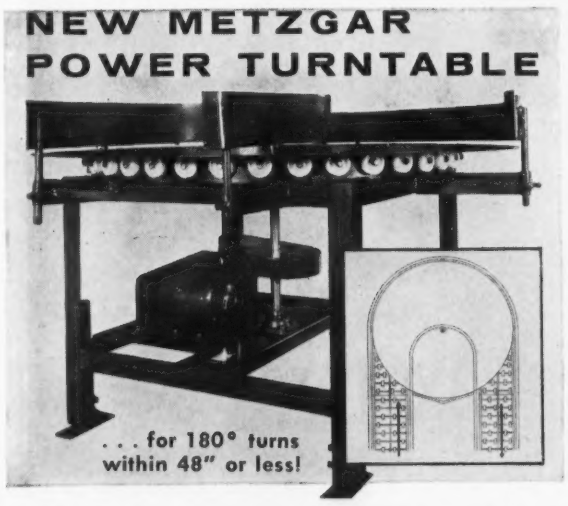
CONVERT WITH BEAM Write today for complete details and specifications for your equipment.

THERE'S A BEAM OFFICE NEAR YOU

BEAM PRODUCTS MFG. CO.
CALIFORNIA
Factory: 3040 Rosslyn St., Los Angeles 65
Export Division: 354 S. Spring St., Los Angeles 13
SALES OFFICES AND/OR WAREHOUSES
NEW YORK 96-10 Linden Blvd., Ozone Park 16, Queens
TENNESSEE 2020 Airways Blvd., Memphis 4
ILLINOIS 1414 S. Michigan Ave., Chicago 5

For more details circle NED-611 L1 on enclosed inquiry slip

NEW METZGAR POWER TURNTABLE



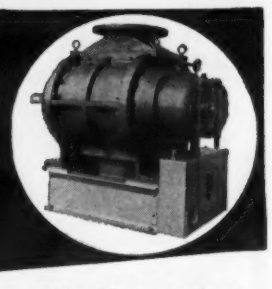
• Motor-driven, circular steel table rides noiselessly on bed of Metzgar Nylo wheels • Can be equipped with single or multiple entry and departure points for any turn or turns up to 180° • Steel guide rails to maintain alignment • Costs much less than power belt or live roller installation effecting same degree of turn • Standard table diameter 48" — smaller or larger models to your specs.

SEE YOUR METZGAR REPRESENTATIVE OR WRITE FOR FULL DETAILS

METZGAR CONVEYOR CO.
416 Douglas St. N.W., Grand Rapids 4, Mich.
WHEEL & ROLLER GRAVITY CONVEYORS • LIVE ROLLER CONVEYORS
POWER BELT CONVEYORS • SWITCHES • ACCESSORIES

For more details circle NED-612 L1 on enclosed inquiry slip

SUTORBILT... NEW BLOWERS AND GAS PUMPS, SERIES 3200



Series 3200 Sutorbilt lobe type positive blowers and gas pumps are heavy duty, high performance units which are designed to handle from 800 to 23,000 cfm at pressures from 2 to 12 psi. Available with timing gear diameters from 10" through 26" in horizontal designs. Also, many sizes are offered with vertical case arrangements.

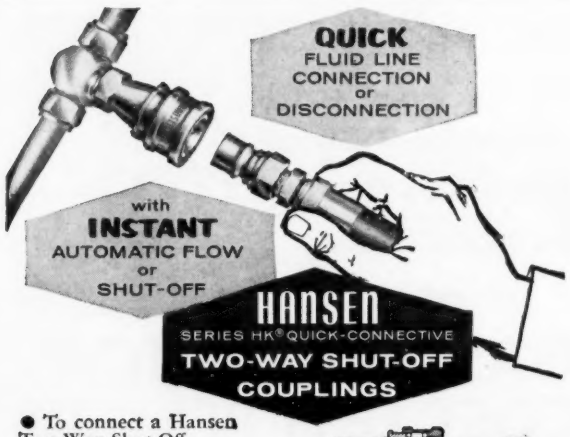
3200 SERIES DESIGN FEATURES:

- distortion-free construction at maximum operating pressure
- one piece 4140 forged steel shafts slip fitted through impellers attached at the gear end allowing increased pressures and horsepower ratings
- alloy steel helical timing gears insure accurate phasing
- internally ribbed impellers provide high strength and stability
- machined sub-bases furnished with all units
- force feed pressure system lubricates timing gears and bearings
- mechanical seals prevent leakage or gas contamination in gas and vacuum pumps

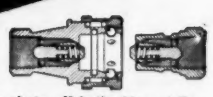
Write for descriptive literature, Department E

SUTORBILT CORPORATION, 2966 EAST VICTORIA ST. • COMPTON, CALIF. SUBSIDIARY OF FULLER COMPANY • CATASAUQUA, PA.
IS WELL BUILT
2620 S-29A

For more details circle NED-613 L1 on enclosed inquiry slip



• To connect a Hansen Two-Way Shut-Off Coupling, merely pull back the sleeve on the Socket and push in the Plug. To disconnect, just pull back the sleeve. Furnished in brass or steel with female pipe thread connections from ⅛" to 1½" inclusive. Also available in sizes up to 1", in stainless steel.



Instantly shuts off both sides of line... prevents loss of liquid, gas or pressure.

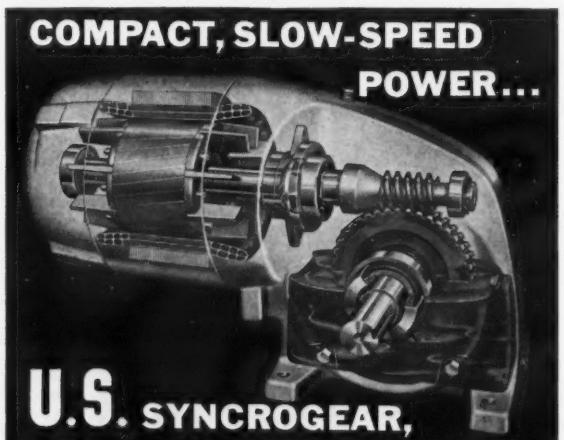
Write for the Hansen Catalog... a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle NED-614 L1 on enclosed inquiry slip

COMPACT, SLOW-SPEED POWER...



U.S. SYNCROGEAR, RIGHT-ANGLE WORM-GEAR TYPE

⅓, ½, ¾, 1, 1½, 2 h.p.

Many configurations... combinations... ratios

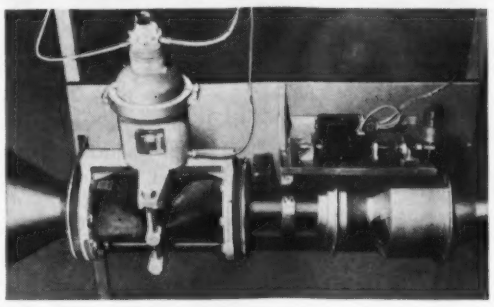
Ratios in Type GW shown, up to 87:1 (in double-reduction GWB, to 354:1) speeds 3.25 to 230 rpm. Variable-speeds, totally-enclosed, explosion-proof, single-phase, flange-mounted among other models available. Rugged, compact—the economy choice in slow-speed power! *Send for Bulletin F-1971*

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, California—or Milford, Conn.

For more details circle NED-615 L1 on enclosed inquiry slip

CONTINUOUS WEIGHER automatically controls dry flows from 10 to 3500 lb per minute

Automation of any dry-flow process or combination dry-flow and liquid process is possible with this continuous controlled weighing system. Flo-Weight con-

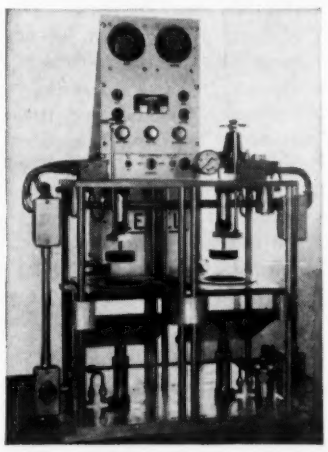


troller is a combination pneumatic pinch valve and dry-flow meter which is constantly weighing the dry flowing material. Any variation in a preset flow rate automatically causes the pinch valve controller to correct the rate of flow which may also be recorded and/or totalized.

Controllers are available to fit spout sizes from 2 to 14 in. with capacities from 10 to 3500 lb per minute. Over-all sizes range from 18 x 11 x 20 in. to 33 x 24 x 78 in. Enclosed, abrasion and corrosion resistant system operates on 115 v, 60 cycles, three-phase ac and 60 psi compressed air. • **Industrial Powertronix, Inc.,** 535 N.W. 11th Ave., Portland 9, Oreg.

For more details circle NED-616 L1 on enclosed inquiry slip

INDUCTION HEATING FIXTURE for various heat treating uses



Brazing, shrink fitting, hardening, and other heat treating operations are performed in this two-station induction heating fixture with a minimum of work handling by the operator. Control center automatically actuates the work station requiring high frequency heating, times the cycle, times the holding period for applied pressure or cooling, and releases the completed part. While one station is being automatically operated, the other is being loaded. Heating at the second station begins as soon as it is completed at the first station, thereby allowing the generator to operate at maximum duty. • **Lepel High Frequency Laboratories, Inc.,** 55th Street & 37th Avenue, Woodside 77, N. Y.

For more details circle NED-617 L1 on enclosed inquiry slip

BUILD IT YOURSELF

...with A-F "E-Z BILD" CONVEYOR COMPONENTS

- Pre-Engineered for fast, easy assembly.
- Components fit perfectly without cutting, drilling or bending.
- No special tools or skills required.
- Mass produced for lower cost.

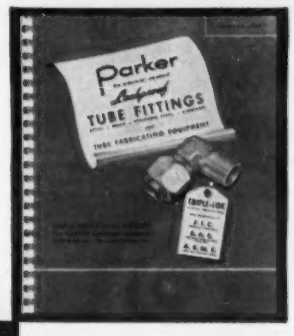
When you need a *simple* conveyor fast—build it economically right in your own plant with A-F E-Z BILD belt and live roller conveyor components.

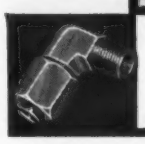
Write today for new catalog EZB-C60

A-F **A-F Conveyors**
Pre-Engineered Conveyor Components
Wheel, Roller, Belt, Trolley
Also Complete Engineered Systems

The Alvey-Ferguson Company 717 Disney St., Cincinnati 9, Ohio

For more details circle NED-618 L1 on enclosed inquiry slip





Pick the right tube fitting quicker with this 128-page Parker Data Book

All the data to design or "tube up" an industrial system is included in this 128-page Parker Tube Fittings Catalog. Guides you in proper tube selection. Gives installation hints, also descriptions and dimensions of all Parker Fittings: "Triple-lok," "Ferulok," "Intru-lok," "Weld-lok," "Braze-lok," in steel and stainless steel, copper, aluminum, brass, for any industrial system from instrument lines to high pressure hydraulic lines.

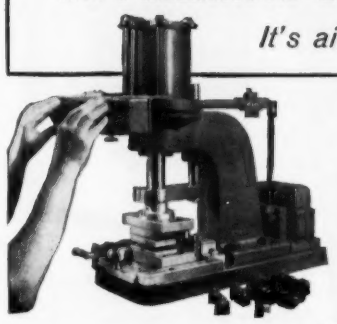
Ask your Parker distributor, listed in the Yellow Pages, for a Parker 4300 Catalog. Or write...

Parker FITTINGS AND HOSE DIVISION
17325 Euclid Avenue • Cleveland 12, Ohio
A DIVISION OF PARKER-HANNIFIN CORPORATION

For more details circle NED-619 L1 on enclosed inquiry slip

Solve your "Small Parts" production problems with a HANNIFIN "HAN-D-PRESS"

It's air operated!



The husky Hannifin "Han-D-Press" takes operator fatigue out of light production operations where speed is the key to economy. A safe, easy-to-operate Hannifin air-operated bench press can handle these sometimes troublesome jobs better, faster and easier.

RIVETING
STAKING
PUNCHING
PRESSING
ASSEMBLING
MARKING

CHECK THESE FEATURES:

- Electric control through Hannifin 4-way solenoid-actuated valve.
- Guided ram. Speed easily adjustable. Automatic return.
- Removable steel base plate. Easy to change job set-ups using alternate work bases.
- Minimum maintenance. Rigid frame; cylinder "tru-bored" and honed.
- Half-ton and one-ton models. Low prices. Immediate delivery.

HANNIFIN PRESS COMPANY
527 South Wolf Road • Des Plaines, Illinois
A DIVISION OF PARKER-HANNIFIN CORPORATION

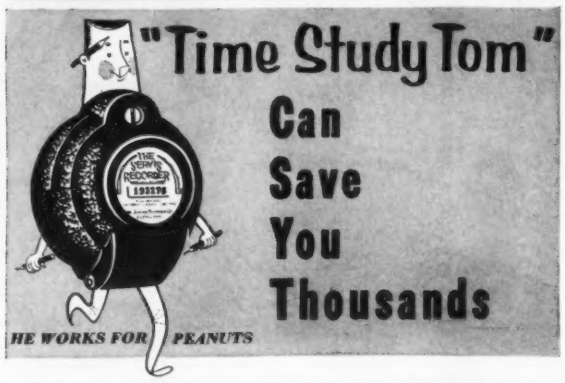
For more details circle NED-620 L1 on enclosed inquiry slip

GET COMPLETE HANNIFIN AIR CYLINDER DATA— INCLUDING NEW SERIES "C"

Air cylinder selection and pricing are easy with 3 Hannifin Bulletins. Heavy-duty Series "A" cylinders are offered in 11 bore sizes, any stroke. New Series "C" cylinders give you traditional Hannifin quality **plus new economy** in a line of general purpose cylinders. Series "S" (Midget-Air) cylinders come in ¾", 1" and 1⅛" bore sizes, spring-return models available. New, easy-to-use price sheets show the many modifications available. 3551-PH

PARKER-HANNIFIN
HANNIFIN COMPANY DIVISION
527 South Wolf Road • Des Plaines, Illinois

For more details circle NED-621 L1 on enclosed inquiry slip



His real name is "SERVIS RECORDER"—an instrument that keeps track of what machines or lift trucks are doing 24 hours a day. Every stop and every start are permanently recorded. You get an exact record of total productive time and non-productive time of any machine. Now you can pinpoint inefficiency quickly — and the cost is peanuts!

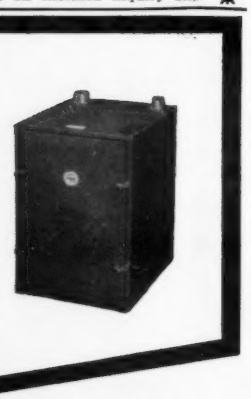
Mechanical Models attach to machine. Electrical Models may be placed in plant office.

Write for folder.

THE SERVICE RECORDER COMPANY
1013A ROCKWELL AVE. • CLEVELAND 14, OHIO

For more details circle NED-622 L1 on enclosed inquiry slip

how to trap dust
that damages your machines and hurts company morale

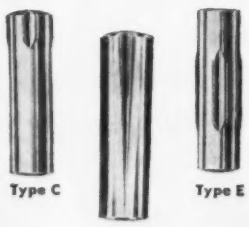


Easy-to-move
TORIT
dust collectors trap dust at its source!

Untrapped dust costs money: "secretly" forces precision machines out of line, limits production. Torit dust collectors are unitized for custom installation—save more money, usually more efficient than central (built-into-building) system. Torit unit operates only when machine or combination of machines it protects are on. Filtered air may be returned to room to save heat. Many models and sizes, all self-contained, easy to move. Write today to . . .

TORIT manufacturing co.
Dept. 201, 1133 Rankin St., St. Paul 16, Minn.

For more details circle NED-623 L1 on enclosed inquiry slip



IN ONLY 2 SECONDS!

EIGHT STANDARD TYPES IN STOCK

permanent holding power!

Seldom does a fastening device give such outstanding holding strength in so short a time. Machine or hand fed, Driv-Lok pins are amazingly simple to insert. Just drive them in. No reaming, peening, aligning, threading or twisting necessary.

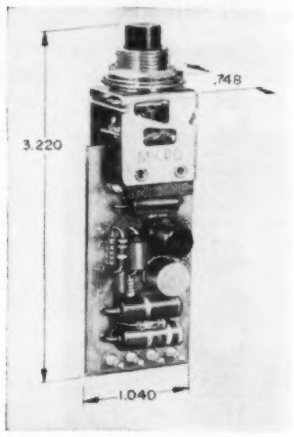
The result is a fastening job that will not let go, regardless of shock or vibration. Driv-Lok pins are available in 8 standard types plus a wide variety of specials.

If you want a fastening job that is fast and permanent, contact Driv-Lok. Send for your free catalog and samples today.

DRIV-LOK SALES CORPORATION
717 Park Avenue, Sycamore 3, Illinois

For more details circle NED-624 L1 on enclosed inquiry slip

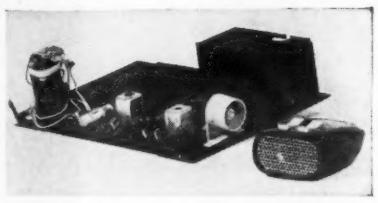
MILLISECOND PULSE SWITCH
has its own electronic circuit



Single millisecond length pulse is produced with each operation of this "one shot" pushbutton Micro Switch. Square-wave pulse width is factory adjustable from 30 to 500 milliseconds and the amplitude from 6 to 55 v. Both are independent of speed or length of switch operation. Standby power requirements are 6 to 20 milliamps. Single-pole double-throw, snap-action switch has its own electronic circuit, and is operable in a 0 to 55° C range. It is used in pulsing relays and solenoids, induction heaters, welders, digital computers, x-ray machines, and other solid state and electromagnetic circuits. • **Minneapolis - Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle NED-625 L1 on enclosed inquiry slip

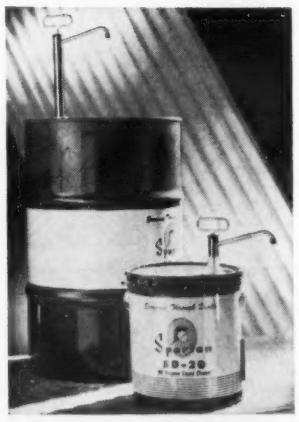
ULTRASONIC REMOTE CONTROL
for four independent functions



Transistorized wireless remote control system consists of a miniature, hand-held, battery - operated 40 - kc ultrasonic transmitter and a compact receiver. Control of four independent functions can be achieved with up to 30-ft separation when powered by a 22-v mercury battery. False operations from ambient noises are minimized by modulating the carrier with four audio frequencies. Transmitter measures $3\frac{3}{8}$ x 3 x $1\frac{1}{2}$ in. and receiver is 10 x $4\frac{1}{2}$ x $2\frac{1}{2}$ in. Experimental Model U10001 consisting of transmitter, battery, and receiver powered from 115 v rms, 60 cycles ac, is offered at $125. • **RMS Associates, Inc.**, 805 Mamaroneck Ave., Mamaroneck, N. Y.

For more details circle NED-626 L1 on enclosed inquiry slip

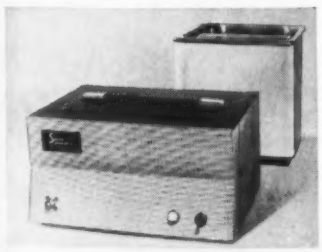
METAL DRUM PUMPS
adapt to 15, 30, and 55-gal drums



Solvents, cleaning solutions, soaps, and many other liquids can be dispensed from containers of several types by this line of hand-operated pumps. Each of three capacities offered is adaptable to 15, 30, and 55-gal drums, and one has a spring clamp for use on pails. Pumps are made of heavy gage steel tubing, chrome plated on the outside and nickel plated for corrosion resistance on the inside. Chemically resistant weighted vinyl hose is supplied. • **Baldwin Mfg. Co.**, 1100 Custer Dr., Toledo 12, Ohio.

For more details circle NED-627 L1 on enclosed inquiry slip

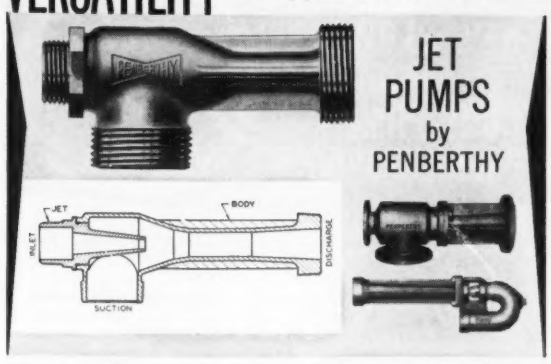
ULTRASONIC CLEANER
90-w unit is self-tuning



No operator attention is required by self-tuning Model MSS 90 ultrasonic cleaner which will generate an average of 90 w, with 360-w peak. Generator contains a single tube in a half-wave self-rectifying circuit and works on a scanning principle. It measures 11 x 10 x $6\frac{1}{2}$ in. and operates on 117-v ac input. Transducer Model MST 901 provides inside tank dimensions of $9\frac{1}{4}$ x $7\frac{1}{4}$ x 4 in. A $2\frac{1}{2}$-in. deep model for use with four 400 or 600 ML Griffin breakers (MST 903) is also offered. Baskets, covers, chemicals, and other accessories are available. • **Sonic Systems, Inc.**, 1250 Shames Dr., Westbury, N. Y.

For more details circle NED-628 L1 on enclosed inquiry slip

VERSATILITY for applications unlimited



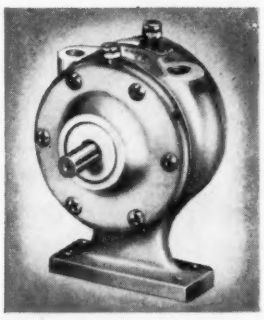
There's hardly a basic manufacturing or service industry that hasn't a use for Penberthy Jet Pumps. And the list of OEM products embodying Jet Pump applications is virtually endless, too. Small wonder, for wherever there's a fluid, vapor, gas or slurry handling job to be done . . . aerate, agitate, blend, circulate, dilute, exhaust, filter, heat, mix, pump or transfer . . . there you'll find an application for *versatile* Penberthy Jet Pumps.

And consider the advantages . . . small in size, light in weight . . . construction and operation simplicity . . . low initial cost, low installation cost, little or no maintenance cost. And in many cases Penberthy Jet Pumps can be utilized where mechanical pumps are impractical or uneconomical.

PENBERTHY MANUFACTURING COMPANY
Division of Buffalo-Eclipse Corporation
PROPHETSTOWN, ILLINOIS
SALES OFFICE: 2660 E. GRAND BLVD., DETROIT 11, MICH.
PENBERTHY®

For more details circle NED-629 L1 on enclosed inquiry slip

They're VARIABLE-SPEED • EXPLOSION-PROOF • REVERSIBLE • . . . yet

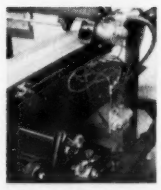


GAST AIR MOTORS COST LESS PER HP!

You pay no premium for Gast Air Motors. Yet you get valuable benefits that cost extra on other types of motors. For example, this Model 4AM delivers over 1 h.p. at 1725 r.p.m. It's reversible, explosion-proof, variable in speed. It can't burn out if stalled by overloads. Price? About $37.00! Other sizes — $\frac{1}{20}$ to 7 h.p. Save on motor costs —

WRITE FOR AIR MOTOR CATALOG and APPLICATION IDEAS BOOKLET!

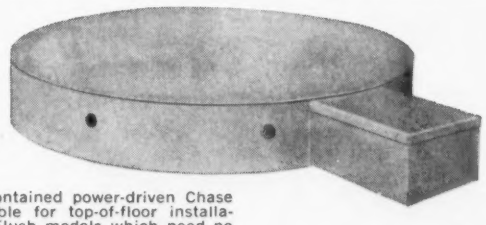
IN THE LAB
For mixing and other equipment.



AND IN THE PLANT
Safe for use near paint, chemicals, volatile liquids.

AIR MOTORS • VACUUM PUMPS • COMPRESSORS
GAST MANUFACTURING CORP.
P. O. BOX 117-R, BENTON HARBOR, MICHIGAN

For more details circle NED-630 L1 on enclosed inquiry slip



Self-contained power-driven Chase turntable for top-of-floor installation. Flush models which need no concrete forms are available also.

speed up handling jobs in your plant with a

CHASE TURNTABLE

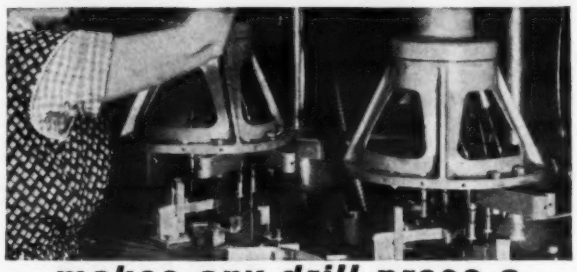
Loading, unloading and handling jobs can be done quickly and easily with a Chase Welded Steel Turntable. Make turns up to 360° according to pre-determined setting with power-driven models.

Completely self-contained power-driven units for top-of-floor or flush installation are available, as well as manual styles. Choose roller, caster or ball type, with plain, checkered, grooved or raised rail tops. Rotating speed of power-driven models is flexible up to approximately 5 to 6 revolutions per minute.

Write for catalog or send specifications for prompt estimate.

Chase FOUNDRY & MANUFACTURING CO.
2950 Parsons Ave., Columbus 7, Ohio

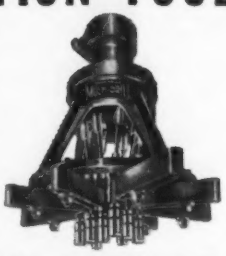
For more details circle NED-631 L1 on enclosed inquiry slip



makes any drill press a

HIGH PRODUCTION TOOL

in minutes!



With a MULTI-DRILL, you can go from hole-at-a-time drilling to real production in a matter of minutes! That's all the time it takes to mount any one of the many standard MULTI-DRILL adjustable multiple spindle drill press attachments on any drill press and put you into time and money-saving multiple drilling. Every MULTI-DRILL is quickly adjustable to drill a variety of hole patterns. Every MULTI-DRILL is designed for high production work. To learn how you can profit with a MULTI-DRILL, ask your nearby Commander Distributor to show and demonstrate the unit that meets your job requirements.

Write for the Production Tool Catalog. 109

Commander MFG. CO.
4220 WEST KINZIE • CHICAGO 24, ILLINOIS

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FOR FAST TALK THAT PAYS OFF

your business needs...

ELECTRONIC **AMPLICALL** INTERCOMMUNICATION

the "clear line" to everyone in your business...

available with privacy handset, light and chime signals

★ AMPLICALL saves time and cuts costs because it provides *2-second speech contact* within and between all departments of your business. At the touch of a button, you get information, issue instructions, hold conferences, speed action in plant and office. AMPLICALL takes the load off busy switchboards, ends wasteful walking and waiting—pays for itself in speedier, more efficient operations. There is an AMPLICALL system for your exact needs. Get the facts today.

★ See your Classified Phone Book under "Intercommunication" for the nearest AMPLICALL specialist—or write us direct for full details.

RAULAND-BORG CORPORATION
3535-H Addison St., Chicago 18, Ill.

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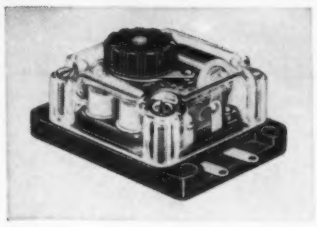
DIRECT-CURRENT AMPLIFIER boosts low inputs from photocells



Weston Model 993 direct-current amplifier provides 10-to-1 amplification of low signal inputs from photovoltaic cells, providing a means of measuring illumination levels below 5 ft-c. The self-contained unit features ±2 per cent linearity, on-off control for zeroing a moving coil instrument, pierced input and output terminals, a quick-mounting four-hole Bakelite base, and a clear Lucite housing. Power is provided by a 1.34-v mercury cell. • **Daystrom, Inc.**, Weston Instruments Div., 614 Frelinghuysen Ave., Newark 14, N. J.

▲ For more details circle **NED-635 L1** on enclosed inquiry slip ▲

MANUAL MOTOR STARTER provides overload protection

Alternating current two-speed fractional-horsepower manual motor starter is suited for NEMA 1 surface, flash panel, machine cavity, and plaster cover mounting in a standard 4-in. square box. Available with or without pilot lights, it provides accurate overload protection for both speeds on single-phase two-speed motors. The single knob is marked "high-off-low" for speed selection and "reset" after overload. Quick make and break twin silver contacts and enclosed, removable heater coils are incorporated. • **Cutler-Hammer**, 315 N. 12th St., Milwaukee 1, Wis.

▲ For more details circle **NED-636 L1** on enclosed inquiry slip ▲

STATIC MAGNETIC SWITCH functions 600 times per minute

Single-output static magnetic switch rated at 40 w is suited for continuous on-and-off switching of solenoids. It has application in counting and packaging operations, sorting, initiating of valves, or in sheet metal press feeding applications. With limit switches, it can be used on traverse tables or machine tools with small horsepower reversing motors. Unit functions at a rate of 600 on-off cycles per minute and delivers 0.4 amp resistive or inductive output at 100 v ac. It has only four terminal connections. Price ranges from $12 to $17, depending upon quantity. • **Magnetics Inc.**, Butler, Pa.

▲ For more details circle **NED-637 L1** on enclosed inquiry slip ▲

INTRODUCING THE NEW

Flowtronic

55 SERIES

AIR VELOCITY METER

For Accurate Measurement of Velocity and Temperature

Flowtronic 55 series Air Velocity Meter provides accurate direct reading of air velocity and air and surface temperature. Three air velocity ranges are provided: 0-1000 fpm, 1000-2000 fpm and 2000-4000 fpm. Temperature measurement range is 20°F to 220°F. An eight transistor electronic circuit provides both rapid and damped meter response. An electrical output which, is suitable for use with a chart recorder, is a standard feature and can be used for the continuous monitoring of air velocity. Model 55A1 is completely portable and is powered by sealed, rechargeable nickel cadmium batteries. Model 55B1 has an electronic power supply which operates on a 115v a.c. line. **Only $475.**

Write for Bulletin 64

FLOW CORPORATION
11 Carleton Street • Cambridge 42, Mass. • TR 6-9843

▲ For more details circle **NED-638 L1** on enclosed inquiry slip ▲

HOW PIONEERING RESEARCH INTO SAFE-TEE SOLVENTS —
Begun More Than 20 Years Ago By
FINE ORGANICS
— PAYS OFF IN BETTER MAINTENANCE PRODUCTS!

More than 2 decades ago, FINE ORGANICS inaugurated a program of research into the ways and means of producing *safer* solvents. Statistics were analyzed to determine how to more fully meet industrial maintenance needs. We reviewed countless case histories, spoke to maintenance personnel everywhere. We asked ourselves how much could be done, how far could we go to close the safety gap. As a result of these studies, we instructed our laboratories to develop a complete new family of fine SAFE-TEE Solvents with these — among many other safety characteristics: flash point high enough to materially reduce or completely eliminate fire hazard; high MAC for relative non-toxicity; solution stability.

Fine Organics' SAFE-TEE SOLVENTS are truly safe ... safe for personnel, safe for the jobs they were created to perform, safe for the equipment with which they come in contact.

The rest of our story — efficiency, economy and speed of performance — is better told by more than 4,700 customers ... for whom, incidentally, we continually formulate special maintenance products "hand-tailored" to do specific jobs SAFELY.

For Example...

SAFE-TEE SOLVENT
F.O.128
Does These **ELECTRIC MOTOR** Cleaning and Degreasing Jobs **BEST:**

- ELECTRIC MOTORS • CONTACT POINTS
- POWER GENERATORS • BEARINGS
- CONDENSERS • ARMATURE & FIELD WINDINGS
- STARTERS • MECHANICAL & METAL PARTS
- FINELY FINISHED SURFACES
- PRE-PAINT & PRE-PLATE Operations

FREE "AN INDEX TO SOLVING MAINTENANCE PROBLEMS" — Informative Technical Booklet.

Write today to Dept. NE-11

FINE ORGANICS, INC.
205 MAIN ST., LODI, NEW JERSEY
Warehouses in Principal Cities

A COMPLETE FAMILY OF FINE MAINTENANCE PRODUCTS

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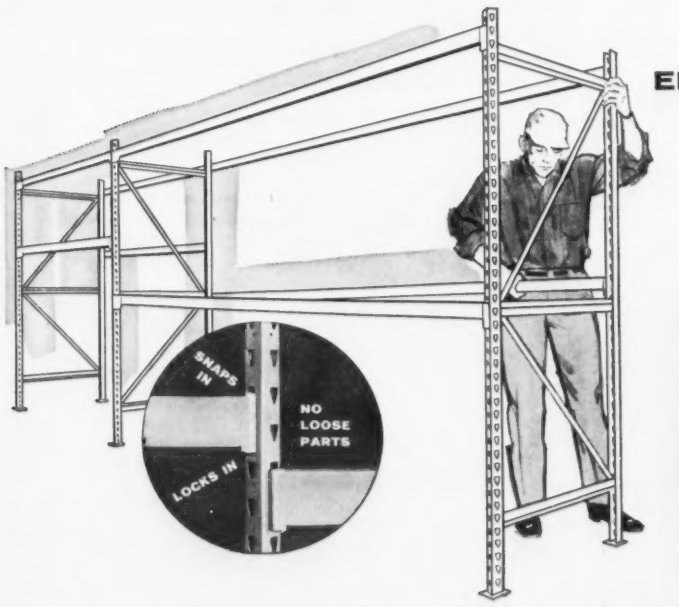
fast assembly!

EMI *air-row head pallet racks*

only 2 basic parts—fast assembly—easy to relocate.



EMI *air-row head DRIVE-IN RACKS*
EMI *air-row head DRIVE-THRU RACKS*

These strong, efficient, space-saving racks are all engineered on the AIR-ROW Head principle with basic interchangeable parts.

Before you build, remodel or add to a storage area, FIND OUT ABOUT AIR-ROW HEAD RACKS

WRITE FOR DETAILED INFORMATION

YOU CAN STACK ANYTHING ON **EMI** RACKS

EQUIPMENT MFG. INC.
21550 HOOVER ROAD • DETROIT 5, MICHIGAN

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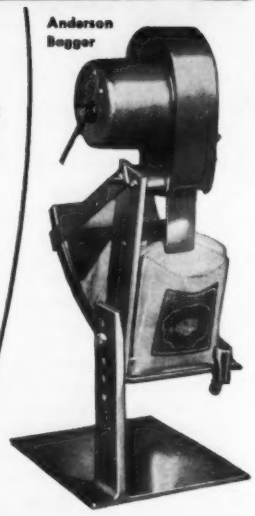
SATISFACTION GUARANTEED and YOUR MONEY BACK

Yes, with Anderson Model 134 you not only can be certain of faster, neater bagging . . . at lower cost, but also can be sure that you will save many times the price of this easy-to-use bagger. Blower open bag; your operator fills and removes it in one swift motion. Adjustable for bags from 3¾ to 5 inches wide and 5¾ to 7½ inches high. (We will be glad to quote for other sizes.)

Anderson Bagger



Just send Samples of your bags and ask for Bulletin 11-40.

Anderson

ANDERSON BROS. MFG. CO.
ROCKFORD, ILLINOIS

For more details circle NED-640 L1 on enclosed inquiry slip

LESS LINER, MORE COATING,
BETTER PROTECTION, LONGER WEAR . . .

NORTH PVC GLOVES

These features, combined with better fit, more comfort, greater dexterity, and maximum resistance to chemicals, oils, greases, etc., mean lower coated glove costs, higher worker output.

For outstanding hand-to-shoulder protection with an uncoated material, insist on Jomac terry cloth gloves, hand guards, pads, mitts and safety sleeves. The loop-pile fabric is long-lasting, cut, abrasion and heat-resistant—and washable.

To keep dry, comfortable and safe in foul weather, insist on North PVC Wet-Weather Clothing . . . tough, flexible, nonaging, waterproof, resistant to abrasion and most oils, greases and chemicals. Available in high-visibility safety yellow.

WRITE TODAY FOR FOLDER DESCRIBING THESE OUTSTANDING PROTECTIVE PRODUCTS BY JOMAC

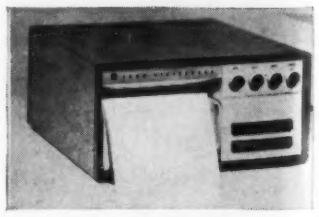
JOMAC Jomac Inc., Dept. G Philadelphia 38, Pa.

In Canada: James North Canada Company Ltd., Simcoe, Ont.

"JOMAC Sells Quality . . . and Quality Sells JOMAC!"

For more details circle NED-641 L1 on enclosed inquiry slip

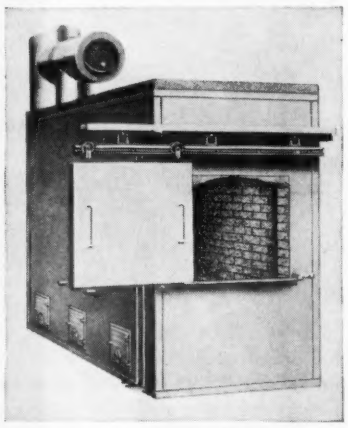
RECORDING OSCILLOGRAPH
has 24 channels, 12 recording speeds



Each of the 24 channels of Model 1508 Visicorder direct recording oscillograph is capable of recording individual static or dynamic phenomena at frequencies from direct current to 5000 cps. Instrument records in any of 12 speeds on 8-in. wide paper which has time and grid lines spaced in logical patterns. Rack mounted unit takes only 7 in. of rack height. Price of the 50-lb oscillograph is from $3000 to $3500, depending upon number of options. Galvanometers are extra. • **Minneapolis-Honeywell Regulator Co.**, Heiland Div., 5200 E. Evans Ave., Denver 22, Colo.

For more details circle NED-642 L1 on enclosed inquiry slip

ELECTRIC INCINERATOR
10 to 30-bu capacities offered



Line of electrically fired incinerators with high capacities for industrial use is now available. In addition to the previously offered 4-bu, 75 lb per hour model, standard 10, 15, 20, and 30-bu capacity units are being made. Wincinators can also be built in any size to meet specific requirements. • **Winnen Incinerator Co.**, 932 Broadway, Bedford 10, Ohio.

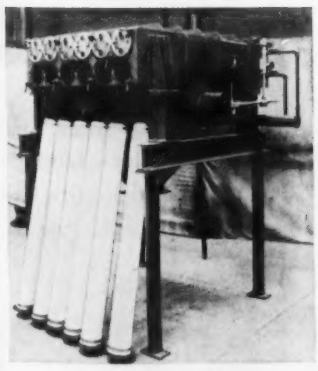
For more details circle NED-643 L1 on enclosed inquiry slip

pH ANALYZER
has 0 to 14 pH range

Stabilized alternating current amplifier of the Model J pH analyzer provides a stability of 0.01 pH per 24 hr over a −20 to 122° F ambient temperature range. Output accuracy and meter sensitivity is ±0.02 pH for the entire 0-to-14 pH range. Analyzer is made with both milliampere and millivolt output for use with any potentiometric or current type recorder. Its slide-out chassis is removed by disconnecting two plugs. Glass and reference electrodes have short, strong bodies. Electrode immersion and flow chambers are available for all application requirements. • **Beckman Instruments, Inc.**, Scientific & Process Instruments Div., 2500 Harbor Blvd., Fullerton, Calif.

For more details circle NED-644 L1 on enclosed inquiry slip

DUST FILTER-COLLECTOR
three models cover 18 capacities



Preassembled Trans-Var dust filter-collector operates on high or low pressure cleaning air, controlled by solenoid valves and actuated either manually or continually by an electrical timer. Uni-Cage construction permits removal of individual cage and sock assemblies for immediate replacement. Lightweight cast frames are seated on a gasketed surface for a dust-tight seal. Horizontal and vertical configurations are available in three standard models covering 18 capacity ranges from 6.8 to 368.4 sq ft. Cleaning is continuous and automatic. Tanks are round or square and can be suspended or floor mounted. Various sock materials are offered. • **Young Machinery Co.**, Muncy, Pa.

For more details circle NED-645 L1 on enclosed inquiry slip

NEW KIDDE
TRI-CLASS-ABC UNITS
APPROVED FOR A, B, C, FIRES

U.L.-approved for use on all three classes of ordinary combustibles, flammable liquids, and electrical fires, new 10 and 20-pound Kidde dry chemical portables simplify the job of fire-fighting, eliminate the possibility of error in matching the extinguisher to the fire hazard. Simple recharging means that once used, units are quickly put back in service. In addition to full U.L. approval, both units are approved by Factory Mutual Laboratories. For more information, write to Kidde today!

Kidde

Industrial and Marine Division

Walter Kidde & Company, Inc., 1124 Main St., Belleville 9, N. J.

For more details circle NED-646 L1 on enclosed inquiry slip

AJAX ability to handle angular and offset misalignment totaling 7 degrees and more is preventing breakdowns, relaxing production tolerances, cutting assembly and maintenance costs. *Write for catalog.*

AJAX FLEXIBLE COUPLING CO. INC.
142 Portage Road Westfield, N. Y.
Incorporated 1920 Representatives in Principal Cities

For more details circle NED-647 L1 on enclosed inquiry slip

Order ROSSPUNCH Perforators and you're sure to get . . . PRECISION • FAST DELIVERY • ECONOMY • SATISFACTION GUARANTEED

ROSSPUNCH Perforators are noted for their uniform **precision** . . . accurate to ±.0003, or closer. They are carefully centerless ground in carbon tool steel and highspeed steel. **Fast delivery** means orders for any of 126 stock sizes shipped same day received. (Custom work generally takes three weeks.) Savings up to 66% compared to making them yourself is *real* **economy!** Your **satisfaction guaranteed** . . . if you are not happy with ROSSPUNCH we will cheerfully send your money back. Could anything be fairer?

ALSO USED AS GAUGES, DOWEL AND MOLD PINS.

FREE! Write for sample ROSSPUNCH with complete prices and specification data. Remember—direct, manufacturer-to-you prices *save you money.*

Write—wire—phone—TWX 655

ROSS Equipment co. inc.

78 COLLEGE AVE., ROCHESTER 7, NEW YORK

For more details circle NED-648 L1 on enclosed inquiry slip

GUNK® Hydro-Seal

economically strips paint from production rejects!

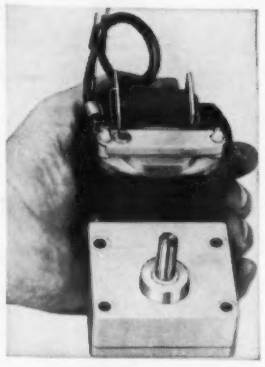
. . . eliminates hazard and expense of stripping paint with hot, caustic solutions — Gunk H.S. is *safe on all* metals. Just dunk; rinse with water. Available in open-head drums, with or without baskets; ideal for low-cost *cold immersion* process paint stripping . . . Removes grease and carbon too! Write for full details, *today*.

® Reg. trade mark

GUNK LABORATORIES, INC.
Gunk Chicago Co., River Forest, Illinois serving the Midwest and Southwest
Radiator Specialty Co., Charlotte, No. Carolina serving the East, Southeast and far West

▲ For more details circle NED-649 L1 on enclosed inquiry slip ▲

FRACTIONAL GEARMOTOR develops 30 lb-in. torque



Flat configuration No. WF fractional horsepower gearmotor develops up to 30 lb-in. torque for continuous duty and even higher ratings in limited duty uses. Powered by a two-pole, shaded-pole unidirectional induction motor, the compact 115-v ac unit has quiet-operating steel spur gears. Brake, fan, special leads, thermal protector, shaft modifications, various lubrication provisions, and any of three motors are offered. Although designed for horizontal mounting with motor above the shaft, it can be used in any position. Gear shaft extends from either or both sides of the gear case. ● **Merkle-Korff Gear Co.**, 213 N. Morgan St., Chicago 7, Ill.

▲ For more details circle NED-652 L1 on enclosed inquiry slip ▲

COMFORTABLE, UPHOLSTERED, ADJUSTABLE DRAFTING CHAIRS

- 2 inch upholstered seat
- Full swivel seat
- 2-way adjustable tempered steel folding backrest
- No soiled hands when adjusting seat
- Three sizes: 20" to 28" — 24" to 32" — 28" to 36"
- Gray, green, beige or brown finish

Also available with round metal or wood seat; or formed plywood or solid hardwood saddle seat.

FREE TRIAL
Use an AJUSTRITE chair or stool for 30 days without obligation. Write today—we'll do the rest.

10 YEAR GUARANTEE

32 Models for Factories • Schools • Laboratories • Hospitals • Offices

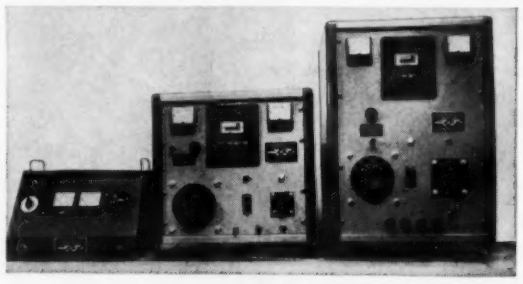
AJUSTRITE CHAIRS and STOOLS

AJUSTO EQUIPMENT CO.
Bowling Green, Ohio

▲ For more details circle NED-655 L1 on enclosed inquiry slip ▲

PLATING POWER PACKS three sizes permit selective metal plating in defined areas

Two table-top plating power packs have been added to company's standard Selectron Model 2530, and all three permit controlled electroplating on specific, de-



fined areas of any conductive material, using a variety of metals and alloys. Part to be plated (cathode) is connected by cable to power supply, while a second cable, fitted with a stylus, holds a graphite anode wrapped in cotton saturated with electrolyte. Stylus is brushed across a defined area until desired thickness of metal is deposited.

Portable 110-v ac Model 1520, used for field work and maintenance, delivers a dc output variable from 0-15 amp at 0-20 v. Semiportable Model 2530 for research and prototype work converts ac line voltage to a 0-25 amp, 0-30 v dc output. Its totalizing ampere-hour meter has 0.002 amp-hr divisions. Heavy production Model 6035, furnished with dolly for easy moving, delivers 0-60 amp, 0-35 v dc output on a 220-v single-phase ac input. It has twin sets of leads for simultaneous use by two operators. ● **Selectrons, Ltd.**, 153 E. 26th St., New York 10, N. Y.

▲ For more details circle NED-653 L1 on enclosed inquiry slip ▲

Portable Hardness Tester

FOR ON-THE-JOB ROCKWELL READINGS

Extremely useful in making accurate hardness tests of warehoused stock or parts on the production line. Tester can be attached at any angle without affecting accuracy. No set-up time required . . . sectioning of specimens is eliminated. Fingertip loading up to 150 kg. Read Rockwell scale directly from large dials . . . no conversion necessary. Rockwell Scales A, B, C, D, E, F, G, H, and K available as standard. Weighs just 3 pounds 6 ounces.

For a demonstration, write Dept. NED-1161.

Riehle®
RIEHLE TESTING MACHINES DIVISION OF
American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

▲ For more details circle NED-650 L1 on enclosed inquiry slip ▲

"Dyflon"® Self-Lubricating JOURNAL BUSHINGS

Design engineers in many industries are specifying new "DYFLON"® Plastic Alloy Liner Self-Lubricating Journal Bushings for these 4 major reasons:

1. LOWER COEFFICIENT OF FRICTION... ideal where lubrication is impossible.
2. WITHSTAND EXTREME VIBRATION...perfect performance under shock load conditions.
3. WILL NOT "COLD-FLOW"...even under extreme load conditions.
4. IMPERVIOUS TO KNOWN CHEMICAL SOLVENTS...eliminates corrosion problems.

"Dyflon"® journal bushings give you long cycle life under extreme load conditions, due to their design and plastic alloy liner. Handle dynamic loads to 20,000 psi without galling, fretting or brinelling. Oil-free for life. Static yield loads to 50,000 psi at low rotational speeds without damage. Available in plain and flanged types. Bore sizes to 3". Retainer materials include stainless steel, aluminum and phenolic. Engineered to same high standards as Southwest's popular "MONOBALL"® Self-Aligning Bearings.

Write for Bulletin 1060 today.

SOUTHWEST PRODUCTS CO.
1705 S. MOUNTAIN AVE., MONROVIA, CALIF.

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NEW CONVENIENCE . . . NEW ECONOMY

ACME STEEL SLOTTED ANGLE KITS

For the first time—"pre-cut" kits of adaptable, adjustable, reusable Acme Steel AIM Brand Slotted Angle. Carts, tables, benches . . . die, bar and sheet stock racks, storage units—nearly 300 types and sizes of structures. These ready-to-assemble units offer considerable material savings, plus the time and labor savings made possible only by this most versatile framing. Write for complete-line catalog.

ACME STEEL IDEA LEADER IN FRAMING
ACME STEEL COMPANY, Dept. NBD-111
135th St. & Perry Ave., Chicago 27, Ill.

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FOR FLOORS THAT HAVE TO TAKE IT

ACME STEEL FLOOR PLATE

Press Acme Steel Floor Plate into topping mix . . . level . . . squeegee-off excess topping and that's it. A floor of 74% steel for practically wear-proof durability, 26% concrete for skid-proofing. Low initial cost, long-term wearability, no-waste characteristics add up to the best floor at least cost. Write for facts.

ACME STEEL IDEA LEADER IN FLOOR PLATE
ACME STEEL COMPANY, Dept. NBD-111
135th St. & Perry Ave., Chicago 27, Ill.

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CUSTOMIZE STORAGE AT LOWEST COST WITH

ACME STEEL RACKS

A new, broadened line of AIM Brand standard modular components for heavy-duty mass storage now enables you to utilize every foot of space without sacrificing quick access. Exclusive Load Lock, 3" square columns and tapered keyhole slots assure maximum strength, rigidity and safety. Erect either all-purpose, drive-in or drive-thru layouts. No "special order" expense. Write for new complete-line catalog.

ACME STEEL IDEA LEADER IN FRAMING
ACME STEEL COMPANY, Dept. NBD-111
135th St. & Perry Ave., Chicago 27, Ill.

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PRECISION BALLS

Manufactured to closer tolerances, finer surface finishes (less than .5 micro inch). Diameter tolerance ± .000005". Sphericity accurate to .000005"

MATERIALS UNLIMITED

High temperature alloys able to withstand temperatures over 1500°F. or severe corrosive conditions. Other materials include Chrome Alloy Steel, Stainless Steel, K-Monel, Aluminum, Naval Brass, Aluminum Bronze, Carbon Steel, Glass, Plastics, and many Special Materials.

Write on your Company Letterhead for new complete catalog. Nationwide representation.

Specify Hartford PRECISION BALLS • BEARINGS

HARTFORD STEEL BALL CO., 85 Jefferson Ave., • West Hartford, Conn.

Get your new No. 700 Elastic Stop® Nut Shop Kit

Convenient for prototype, maintenance, machine or model shop uses

Here's a handy shop kit filled with over 250 Elastic Stop nuts—in thread sizes ranging from 4-40 to 1/2-20—in both standard and thin hex heights. Elastic Stop nuts feature the famous red nylon locking collar which does not gall bolt threads or remove plating. They will not shake loose under vibration and will maintain a precise adjustment at any position on the bolt—until deliberately wrenched off. Elastic Stop nuts are reusable through more than 50 on-and-off cycles . . . the perfect fit between bolt threads and locking collar seals internal threads against seepage and corrosion. For each kit, send $15.00 to Dept. S66-1137.

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

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Small rugged switch for medium loads ESCO ROTARY MULTIPOLE SWITCH

Use the ESCO TYPE A

for single-knob control of up to seven sections, up to 8 positions per section

ELECTRICAL RATING: *Continuous* — 10 amp. 125 volts.
Interrupting — Alternating Current 5 amp. 125 volts (at 0.75 PF), 3 amp. 125 volts (Lamp load).
Interrupting — Direct Current 5 amp. 30 volts (non-inductive), 1 amp. 125 volts (non-inductive), ½ amp. 125 volts Inductive (.075 henry), 2½ amp. 30 volts Inductive (.015 henry).
Overload — 50 operations 30 amp. 125 volts a-c (non-inductive).
Available with a wide selection of switching assemblages. Positive positioning with sturdy detent mechanism.
Write today for complete information on all ESCO rotary multipole switches.

ESCO of WEYMOUTH
ELECTRO SWITCH CORPORATION
167 KING AVE., WEYMOUTH 88, MASSACHUSETTS

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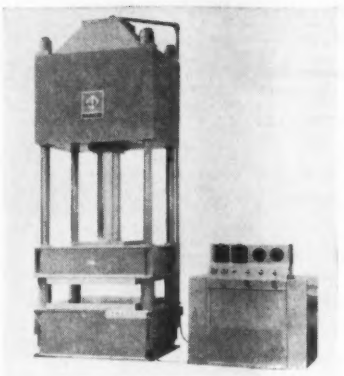
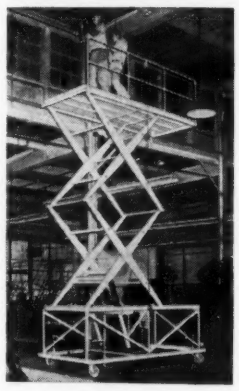
PLASTICS MOLDING PRESSES
capacities from 150 to 1000 tons



Hydraulic system in this line of plastics molding presses contributes to operational flexibility by affording ram force at a selected position, sequential cycling and precise speeds in either direction, and a preselected holding period. Units rated 150 to 1000-tons have a front push-button panel for control of thermosetting and thermoplastic molding operations. The 600-ton model shown has a 60-in. stroke, 72-in. daylight, and 60-in. square platens with individual temperature controls. Console control may be located at either side. Steam or electric heat may be specified. • **Pasadena Hydraulics, Inc.**, 1433 Lidcombe, El Monte, Calif.

▲ For more details circle NED-668 L1 on enclosed inquiry slip ▲

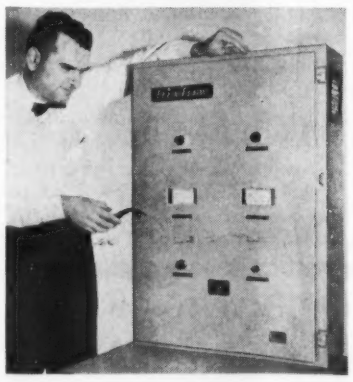
ADJUSTABLE WORK PLATFORMS
caster equipped units are mobile



Platform height adjustment ranges up to 12 ft are built into Series 61 hydraulically adjustable work platforms. Units have large diameter casters for mobility, heavy duty leveling jacks for stability on uneven or sloping floors, and platform working area with nonskid, self-cleaning serrated safety grating. Both double and single scissor models can be equipped with road running gear and hitch. Operation can be either electro-hydraulic on various voltages or air-hydraulic for use on plant air lines. Dead-man controls are located on the platform guardrail. Model shown has minimum platform level of 5½ ft and elevates up to 17 ft. • **Ballymore Co.**, Lincoln & Garfield Avenues, West Chester, Pa.

▲ For more details circle NED-669 L1 on enclosed inquiry slip ▲

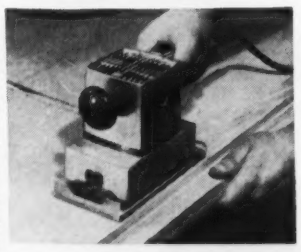
METAL FLAW DETECTOR
usable on wire, sheet, tubing, pipe



Imperfections and discontinuities are found in continuously moving metallic materials by this flaw detection equipment. Replaceable electronic modules adapt the Flux-Flaw unit to a variety of applications, employing magnetic field techniques. Equipment is used to find welds in magnetic wires; conductive surface flaws on any type of wire; laminations, holes, and welds in conductive metal sheets; and butt welds, holes, and flaws in tube and pipe. Metal inspected can be either magnetic or nonmagnetic. • **Assembly Products, Inc.**, Chesterland, Ohio.

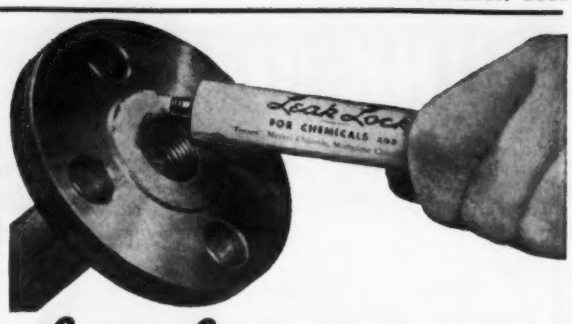
▲ For more details circle NED-670 L1 on enclosed inquiry slip ▲

ORBITAL SANDER
runs at 10,000 orbits per minute



Directly powered by a 115-v ac/dc motor, the Sanzall heavy-duty orbital sander quickly gives a satin smooth finish to wood, metal, plastics, or plaster. Tool leaves no swirl marks and sands up to vertical edges and corners. It weighs 5 lb and is capable of 10,000 orbits per minute. Sander measures 10¾ x 5¾ x 3⅝ in. over-all and is furnished with package of 10 assorted sandpaper sheets at $59.50. With steel carrying case, price is $67. • **Milwaukee Electric Tool Corp.**, 5320 W. State St., Milwaukee 8, Wis.

▲ For more details circle NED-671 L1 on enclosed inquiry slip ▲



Leak Lock STOPS LEAKS *where other compounds fail!*

Here's a simple, economical solution to many troublesome leaking joint problems. Leak Lock holds LP, gasoline, oils, gases, petro-chemicals and refrigerants that eat through ordinary joint compounds. Its remarkably tough, highly adhesive, remains flexible indefinitely . . . the joint compound that stretches rather than breaks. Years of use have established its advantages in stopping wasteful or hazardous leaks in the petroleum, chemical, atomic energy, electronic, refrigeration and other fields.

Listed by Underwriters' Laboratories for Gas and Oil Equipment List: Also for Propane and Butane.

For free sample, write on letterhead giving us the name of your local Industrial Distributor.

HIGHSIDE CHEMICALS INCORPORATED
14 Colfax Avenue • Clifton, N. J.

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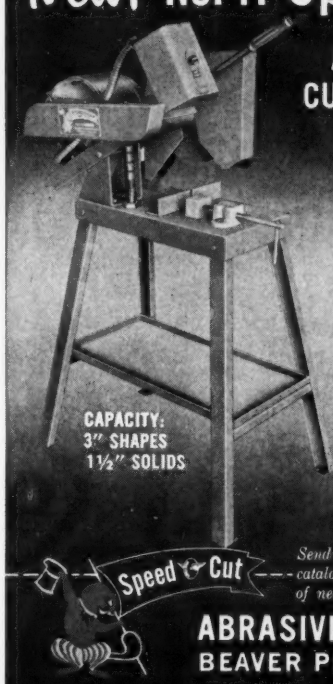
New! No. 11 Speed-Cut



A BUDGET-SIZE CUTOFF FOR EVERY SIZE SHOP!

FAST! POWERFUL! ECONOMICAL!

PRICED SO LOW YOU CAN'T AFFORD TO BE WITHOUT IT!

Speed-Cut Abrasive Cutting Machines

MANUAL OR POWER-OPERATED MODELS FOR WET, DRY, OR ANY-ANGLE CUTTING!

CAPACITY: 3" SHAPES 1½" SOLIDS

Send for complete catalog and name of nearest distributor

ABRASIVE MACHINE DIV.
BEAVER PIPE TOOLS, INC.
DANA AVE.
WARREN, OHIO

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For *FAST* Hardness Readings!

TAKE THE TESTER TO THE WORK instead of the work to the Tester

Webster

PORTABLE HARDNESS TESTERS *for non-ferrous metals*

Makes accurate readings in 2 seconds on aluminum, brass, copper, etc. Dial readings positively identify tempers of all materials within instrument range. Readings can be correlated to standard hardness scales. Cylindrical anvil tests all shapes: *sheets, tubes, extrusions, strip stock.* Capacity—¼". Hand operation. Simple, rugged design in several models for various materials. Ask for data and recommendations.

FREE FOLDER write for your copy.

WEBSTER INSTRUMENT, INC.
11856 Mississippi Avenue, Los Angeles 25, California
Dept. N.

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CRANE RUNWAY MATERIAL

from one dependable source

PER-FIT CRANE STOPS • CRANE RAIL CLIPS
HOOK & ANCHOR BOLTS • SPLICE BARS
CRANE RAIL-12# THRU 175#

For prompt estimates, and free copy of Industrial Rail Catalog NE11 write
L. B. FOSTER CO.
Pittsburgh 30, New York 7, Chicago 4, Houston 2, Los Angeles 5, Atlanta 8, Cleveland 35.

Faster From Foster
Rail • Piling • Pipe, Valves, Fittings

For more details circle NED-675 L1 on enclosed inquiry slip

Handy Tube Bender

Smoothly Bends ANY Pipe or Tubing

3/8" to 1 1/8" O. D.

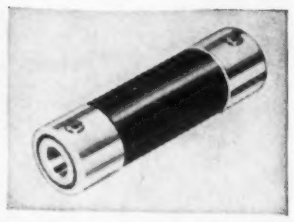
Just a twist of the wrist assures perfect, even bends . . . right-angle, any angle, U and offset—every time. Eliminate need for els. No more guesses—no kinks! Save enough time, labor and money on ONE job to pay for your Handy Tube Bender.

See your supply house—or write for free folder today.

HOLSCLAW BROS., INC.
480 N. Willow Rd. • Evansville, Ind.

For more details circle NED-676 L1 on enclosed inquiry slip

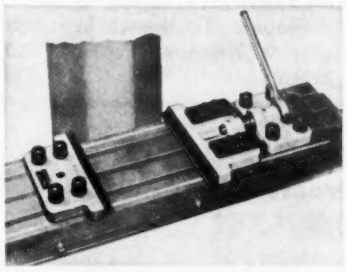
FLEXIBLE SHAFT COUPLING
made in ratings to 1/3 hp



A self-locking set screw threaded through a steel bushing is featured on this flexible shaft coupling made in bores to 1/2 in., in up to 1/3-hp ratings for speeds to 3600 rpm. Set screw is held by an internally formed rubber "girdle" to prevent loosening due to vibration. Coupling requires no maintenance and can be completely enclosed in an assembly. • **Flexible Coupling Mfg. Co.,** 8145 S. Dobson Ave., Chicago 19, Ill.

For more details circle NED-678 L1 on enclosed inquiry slip

HOLD-DOWN VISE
holds large plates, castings, parts



A 10-in. removable ratchet handle minimizes the effort required to tighten the IMP extension hold-down vise, built to hold plates, castings, and parts beyond the capacities of standard vises. Entire top surface of the work is free for machining. The 1-in. travel sliding jaw is keyed and gibbed to prevent raising or twisting. Standard and heavy 10-in. wide interchangeable hold-down jaws are offered. Jaw mounting permits use of 1/2-in. high parallels to raise part for through machining. Three models are made with 4 1/2 to 5 1/2, 5 1/2 to 6 1/2, and 6 1/2 to 6 1/2-in. centers. Opening is 15 in. less than table length. Price is $329.75. • **Illinois Metal Products,** 429 W. Superior St., Chicago 10, Ill.

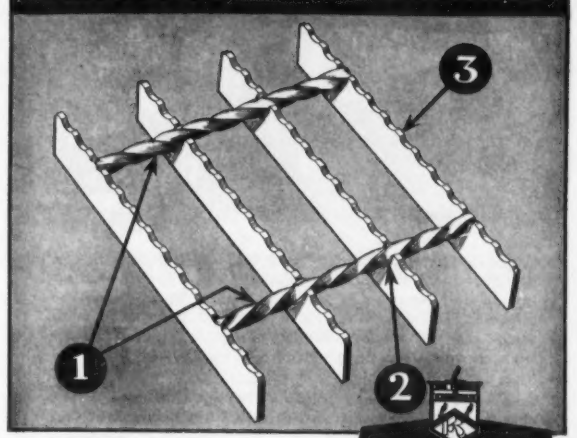
For more details circle NED-679 L1 on enclosed inquiry slip

ASBESTOS GLOVES
for handling parts heated to 1700° F

Hand comfort in handling parts heated to as high as 1700° F is afforded by long-wearing Dura-Weave asbestos gloves. Fabric is 1/8-in. thick AAA grade asbestos averaging 5 1/2 lb per square yard and contains 95 to 99 per cent long staple asbestos fiber. The five-finger glove has a free swing thumb for greater freedom of movement. Also available are Dura-Weave one-finger mitts, regular and reversible mitts, and square and oval pads stitched with asbestos thread. • **Asbestos Cloth Products Co.,** 766 Merchant St., Los Angeles 21, Calif.

For more details circle NED-680 L1 on enclosed inquiry slip

EXTRA SAFETY FEATURES
—in—
KERRIGAN *Weldforged* GRATING



1. Spirals alternate in cross bars
2. Spirals are continuous, even at weld points.
3. Serrations available: Sharp, Medium or Coarse

KERRIGAN
IRON WORKS COMPANY
Nashville, Tennessee

ADDRESS: DEP'T. N-11

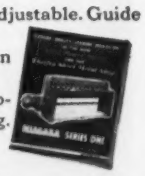
Write now for new, easy-to-use catalog on this electronically weldforged steel grating with the EXTRA safety features.

For more details circle NED-681 L1 on enclosed inquiry slip

Economical to buy *and operate!* Hairline accuracy! Split second action (85 cuts per minute)! Smooth, lively, full of pep and power! You're looking at the Niagara Series One . . . the thrifty line for work up to 10 gage, 10 feet.

And what a line-up of "big shear" features . . .

INSTANT ENGAGING CLUTCH: Famous Niagara 14 point, multiple jaw sleeve design for uniform timing and rhythmic shear operation.
HI-POWER DRIVE: Completely enclosed . . . clutch, gearing and flywheel operate on anti-friction bearings in a bath of oil.
DIRECT CONNECTED MOTOR: High torque, pancake type. No belts, sheaves, nor belt guards.
RUGGED, WELDED STEEL: Bed, holddown, crosshead, housing legs . . . for utmost strength and rigidity.
CLOSED BOX SECTION: Bed and crosshead. Horizontal, vertical and torsional stresses resisted with minimum deflection.
AUTOMATIC HOLDDOWN: Self-compensating. Applies instant, uniform pressure, holding sheet flat and tight against bed.
PRECISION GAGING: For micrometer accuracy. Easily adjusted.
LAMINATED, NON-METALLIC WAYS: Adjustable. Guide crosshead accurately.
4-EDGE KNIVES: Quadruple service between regrinds. Heat treated, flush-faced.
THERE'S MORE — get the *complete* description. See why you're losing money by waiting. Request Bulletin 73 now . . . *today!*



cost-cutting NIAGARA power
squaring shears for sheet metal work

NIAGARA MACHINE & TOOL WORKS • BUFFALO 11, N. Y.
District Offices and Distributors Everywhere

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2 minute, $10 replacement

For quick, economical maintenance, Hamilton stocks complete movement subassemblies of its gages. If your Hamilton Gage needs a repair, you "trade in" the old movement and we'll send you a replacement for $10. A few minutes for installation, then you're off and testing. That's it. No inventory of spare parts. Less down-time. Less manpower tie-up.

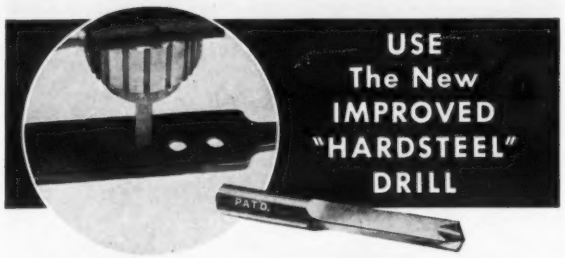
Let's talk other benefits. Hamilton's gage repeatability to .00001". Hamilton's light gaging force (2 or 4 ounce) that's adjustable. Hamilton's unique transmission action—indirect to gear mechanism—that protects the movement from a heavy force at the spindle end. Hamilton's years of watchmaking experience, so valuable in maintaining the fine accuracy of precision gages.

For free data sheets on Hamilton Gages, write to Dept. 2511, Hamilton Watch Co., Lancaster, Pa. Or, if you have a special gaging problem, write to E. P. Barber, Director of Industrial Products Div.

Kwik-Chek Gages—another precision product of the
HAMILTON WATCH COMPANY
Industrial Products Division, Lancaster, Penna.

For more details circle NED-677 L1 on enclosed inquiry slip

Drill Hardened Steels without Annealing—



With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It—With "HARDSTEEL"

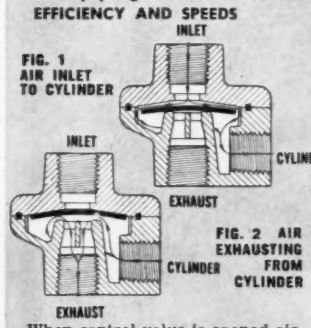
BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

"HARDSTEEL"

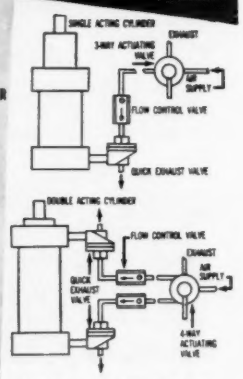
For more details circle NED-683 L1 on enclosed inquiry slip

NEW! Pneu-trol® QUICK EXHAUST VALVE

Fast air dumping AT THE CYLINDER permits use of smaller valves and piping . . . INCREASES EFFICIENCY AND SPEEDS



When control valve is opened air pressure seals exhaust port and diaphragm is deflected permitting air to pass thru the cylinder port (Fig. 1). When inlet pressure is relieved (by actuating valve in control circuit) the buildup of cylinder return pressure closes inlet port (Fig. 2) snapping the diaphragm off the exhaust port allowing instantaneous evacuation of exhaust air. *Write for complete details, specifications and prices.*



TYPICAL APPLICATIONS of Quick Exhaust Valves in Single and Double Acting Cylinders. Because exhaust air is dumped at cylinder, smaller diameter piping and smaller selector valves can be used

AUTOMATION AUTO-PONENTS INC. COMPONENTS

AUTO-PONENTS INC.
2929 Grant St. • Bellwood, Illinois

For more details circle NED-684 L1 on enclosed inquiry slip

IN WOVEN WIRE SCREEN AND WIRE CLOTH PRODUCTS

Whether you are grinding, sizing, scalping, dewatering or filtering it's the accuracy of the "working opening" that makes the difference in woven wire screen and wire cloth products. We pride ourselves in weaving accurate "working openings", an engineered screening surface to meet your specification.

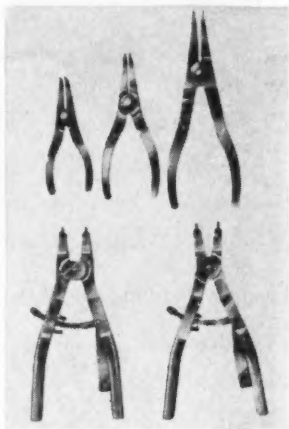
First, the best metal or alloy is selected—hard enough to withstand the abrasive action—ductile enough not to break under stress. Next, the best wire diameter and crimp are determined. Then we weave wire screen or wire cloth around accurate "working openings" best suited for your screening application.

FREE! Write for bulletin 160 giving complete details and facilities.

THE CLEVELAND WIRE CLOTH & MFG. CO.
3573 EAST 78th STREET • CLEVELAND 5, OHIO

For more details circle NED-685 L1 on enclosed inquiry slip

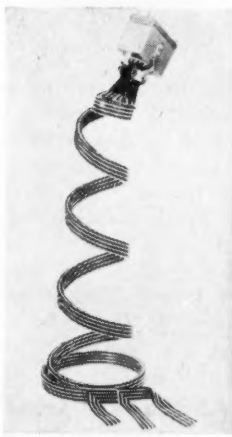
RETAINING RING PLIERS
three types in several sizes



Truarc retaining rings in diameters from 1/8 to 10 in. are handled by several sizes of easy-to-use pliers, made in three types. Internal pliers for rings in a bore or housing, external pliers for rings about a shaft, and universal pliers with adjustable pivots for either internal or external rings are available. Standard type has springs and adjustable stops for production line use, while the field type is suited for maintenance and general use. Tips are permanent, except on larger sizes where they are replaceable. Tools with bent tips for special uses are available. • **Owatonna Tool Co.**, 436 Cedar St., Owatonna, Minn.

For more details circle NED-686 L1 on enclosed inquiry slip

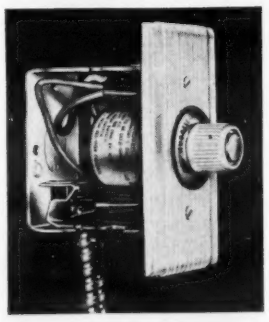
EXTENSIBLE CABLES
assembly retracts into a flat disc



Added to line Spectra-Flex extensible cables is this conical helix harness, suited for extension and retraction in a vertical plane. Assembly is custom made for each application in all wire gages from No. 10 to No. 30 AWG. There is no limit in number of conductors or cable width. Harness retracts into a flat disc. Large number of conductors can be used in any type of insulation, provided it has a vinyl jacket. Terminal plugs can be fitted and potted. • **Spectra-Strip Wire & Cable Corp.**, Box 415, Garden Grove, Calif.

For more details circle NED-687 L1 on enclosed inquiry slip

ELECTRIC LIGHT DIMMER
fits standard 2-in. switchbox



Both incandescent and rapid-start fluorescent lights on the same circuit can be operated by the Hubbell-trol dimmer. Because its transformer can be remotely surface mounted, the dimmer requires no special wall construction. It fits in any standard 2-in. switchbox and uses a standard 4½ x 2¾-in. switch plate. The 120-v ac saturable reactor unit handles up to 600 w of either incandescent or fluorescent lights, or both types together. Range is from full brightness to total darkness. System can also include three-way switches at other points for on-off control. • **Harvey Hubbell, Inc.**, State & Bostwick Streets, Bridgeport 2, Conn.

For more details circle NED-688 L1 on enclosed inquiry slip

TEST & SOLDERING PANEL
speeds fixture, plug assembly

Untrained personnel can operate this visual test and soldering panel, designed to consolidate several operations into one operation. It is used in the assembly or soldering of groups of wires into various types of plugs. Plug adaptor and chart are inserted into the panel and the matching plug to be wired is connected to the adaptor. When the soldering iron or probe touches a plug pin the corresponding number or letter lights up on the chart, indicating proper wiring of the pin. Panel can also be used as an inspection fixture or for plug or circuit checking. • **Winslow Product Engineering Corp.**, 47 St. Joseph St., Arcadia, Calif.

For more details circle NED-689 L1 on enclosed inquiry slip

You Get More When You Braze With

HANDY & HARMAN BRAZING ALLOYS

☐ Premium quality alloys and fluxes for producing the ultimate in sound, integral, leaktight brazed joints

☐ Widest selection of brazing alloys and fluxes to cover every need

☐ Wide choice of forms—wire, rod, sheet, rings, washers, special forms and shapes

☐ Technical service and design aid to help you use brazing for best advantage

☐ Immediate availability and service from nationwide network of distributors

Domestic Offices: Bridgeport 1, Conn., CLearwater 9-8321 ☐ Chicago 22, Illinois, 1900 West Kinzie St., SEeley 3-1234 ☐ Los Angeles (El Monte) Calif., 330 North Gibson Road, CUmberland 3-8181 ☐ E. Providence, R. I., 845 Waterman Ave., GEneva 8-6500 ☐ Dallas 30, Texas, 5840 Williamstown Road, ADams 9-2717 ☐ Cleveland 26, Ohio, 4402 West 215 Street, EDison 3-2166 ☐ Detroit 35, Michigan, 19363 James Couzens Highway, VErmont 8-8480

HANDY & HARMAN
850 Third Ave., New York 22, N.Y.
PLaza 2-3400

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Replacing belts too often?

Ask your local Gates Man to show how Gates Super HC Drives end drive troubles . . .

Because of exclusive design features, Gates Super HC High Capacity V-Belt Drive can often transmit the required power in ½ to ⅔ the space required by a conventional V-belt drive. This means a Super HC Drive can end your V-belt troubles where limited space has made necessary a marginal conventional drive.

Gates Super HC Drives absorb machine-damaging vibration and shock. Multiple belts assure you of continuous operation, reducing costly machine down-time.

The Gates Man near you is a drive design expert. *Ask your nearby Gates Distributor for his help when you have a drive problem.*

The Gates Rubber Company
Denver, Colorado

Gates

Building the future on 50 years of progress

BP-51

Gates Super HC V-Belt Drive

For more details circle NED-691 L1 on enclosed inquiry slip

Transmits Everything From Chemicals To Food Products To Electrical Cabling Without Kinking Or Collapsing

Add the outstanding physical and chemical properties of Teflon to the thermal protection, scuff, weather and oil resistance of synthetic rubber and you've got a tubing that can transmit almost anything anywhere!

The inner lining of Teflon:

- **is unaffected by any commercial chemical, will not contaminate a food or fluid stream, has the widest service temperature range of any plastic, good dielectric strength (500 to 2000 volts/mil).**

The outer covering of synthetic rubber:

- **keeps the Teflon liner from collapsing, protects it from abrasion, provides thermal insulation.**

PF Teflon Lined Rubber Tubing is available in ⅛" through 1" I.D. sizes covered with ⅛" or more synthetic rubber, or other elastomers, in lengths to meet your needs.

Write, wire or call for details on how this outstanding, new tubing can meet your requirements.

PENNSYLVANIA FLUOROCARBON CO., INC.
1115 N. 38th Street, Philadelphia 4, Pa. • EVergreen 6-0603
*Du Pont Reg. Trademark

For more details circle NED-692 L1 on enclosed inquiry slip

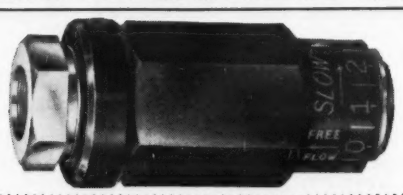
CUT ALL METALS ... fast and easy! with this PORTABLE timesaver BANDSAW

Zip through both ferrous and non-ferrous metals—even tool and stainless steels. Handles 3¼" x 4¼" rectangular stock, ¾" dia. round stock ... well balanced, easy to use ... 6.5 amp. universal motor, blade moves at 240 sfpm. Ask your Porter-Cable distributor or write for folder.

Porter-Cable
another fine product by ROCKWELL

PORTER-CABLE MACHINE COMPANY
N. Lexington Ave., Pittsburgh 8, Pa.

For more details circle NED-693 L1 on enclosed inquiry slip



Replaces LARGER valves

NEW MEAD DYNA-TROL flow-regulating valve
(EXTRA PRECISION IN LOW FLOW RANGE)

SAVINGS: Substitute a MEAD DYNA-TROL ⅛" valve for a more costly ¼" valve. Use a MEAD ¼" valve for a ⅜" valve, and so on up the scale. Flow equals full pipe area in both directions.

PRECISION: First 360° turn of adjusting sleeve increases flow from zero to about 10% of potential, for extreme exactness in low flow range.

ASK YOUR MEAD MAN about 24-hour service on most MEAD products . . . 48 hours on special orders.

PRODUCTS FOR AUTOMATION
MEAD
FLUID DYNAMICS

A DIVISION OF MEAD SPECIALTIES CO.
4114 N. KNOX AVE., Dept. 1281, CHICAGO 41, ILL.

For more details circle NED-694 L1 on enclosed inquiry slip

ELECTRIC FORK TRUCK
3000 and 4000-lb capacity models

Highly maneuverable Model ERS sit-down electric fork truck with center control uses a standard 18-cell, 21-plate battery in both the 3000 and 4000-lb capacity versions. The compact, counterbalanced unit affords good operator visibility, interchangeable parts, travel speed of 7 mph (light), and 80 fpm lift speed with a 36-v battery. Lift speed of 140 fpm is optional. Single control lever allows individual or simultaneous control of lift and tilt. Fully loaded, truck can negotiate a ramp with over 15 per cent grade due to high torque provided by Current Miser Control system. • **Automatic Transportation Co.**, 149 W. 87th St., Chicago 20, Ill.

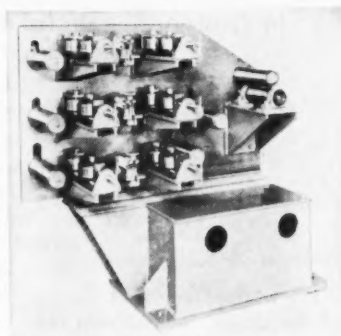
For more details circle NED-695 L1 on enclosed inquiry slip

COOLING UNIT
for diodes and transistors

High capacity thermoelectric cooling unit for stud-mounted diodes and transistors conforms to the component case shape, simplifying application. The F-3DC Frigistor cooler consists of three thermoelectric couples, the cold sides of which extract heat from the component case. Heat is pumped out to the other side of the cooler and rejected to chassis, fins, or other heat sink. Operating on only 0.3 v, unit cools at any current up to 17 amp. It pumps 4.25 w minimum across temperature difference of 0° C. At zero watt load, it provides temperature difference of 65° C or more. • **General Thermoelectric Corp.**, Box 253, Princeton, N. J.

For more details circle NED-696 L1 on enclosed inquiry slip

STRIP EDGE CONDITIONER
for strapping or narrow strip



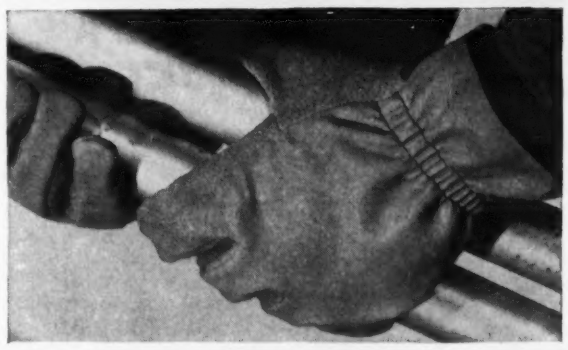
Burr-free edges are produced in two steps on this edge-conditioning unit for steel strapping and other narrow strip products. Strip first passes through burr shaving rolls, then through vertical edging rolls which round the corners of the stock to provide a smooth edge. Pull-through type unit can be furnished as a separate line for single or multiple strands, with uncoiler and recoiler, or as part of a slitting line. • **Steel Equipment Co.**, 20805 Aurora Rd., Cleveland 22, Ohio.

For more details circle NED-697 L1 on enclosed inquiry slip

LIQUID LEVEL CONTROLLER
has explosionproof sensing heads

Using the Geiger-Mueller principle of radiation detection, this simplified liquid level controller has sensing heads housed in thick steel tubes to meet explosionproofing requirements. Instrument can be applied to almost any size or type of vessel to provide continuous level indication or control. The 6-in. long heads can be increased in 6-in. increments to meet specific high or low viscosity materials applications. There is no contact with the material. Recording and other instruments may be as far away as 500 ft. Thermal stability is between −60 and 150° F. The 4½-in. indicating meter is graduated from 0 to 100 for readout. • **Ohmart Corp.**, 4241 Allendorf Dr., Cincinnati 9, Ohio.

For more details circle NED-698 L1 on enclosed inquiry slip



NEW ALL-WEATHER GLOVE

ALL-WEATHER TUF-DUK is sure-gripping, grease and water repellent, warm, flexible, washable *and long wearing.*

REPLACES JERSEY, COTTON AND LEATHER GLOVES. Stretchable liner of heavy jersey with new-type vinyl impregnated palm gives more comfort and safety with up to 10 times more wear. Driver's, safety cuff and knitwrist styles.

FREE TEST TO D & B LISTED FIRMS: All-Weather Tuf-Duk is one of more than 50 *job-fitted* Edmont gloves. Describe your operation, chemicals present, temperature range. We will send correct gloves for on-the-job testing. Edmont Inc., 1240 Walnut St., Coshocton, Ohio. In Canada, Edmont Canada Ltd., Cowansville, Quebec.

ALL-WEATHER TUF-DUK by ... Edmont

For more details circle NED-699 L1 on enclosed inquiry slip

These famous shafts mean easier roll handling, faster, at lower cost!

Tidland
PNEUMATIC SHAFTS
for all roll winding, and unwind equipment

Light, strong, easy-to-use for fast set-ups. Positive uniform, non-slip grip. No damage to cores or material. Collapsible, instant release! A complete line, custom-fitted to any need, any length, any diameter, for any size rolls.

LEAF-TYPE LUG-TYPE AND SPECIAL SHAFTS FOR: PAPER, PAPERBOARD, PLASTIC FILMS, METALS, FOILS, LAMINATES, TEXTILES, RUBBER

Sold exclusively by CAMERON
Write for literature

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Franklin Road, Dover, N. J.

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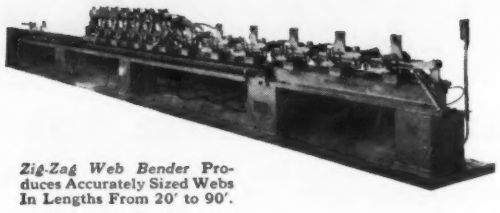
Brazil: Cameron Maquinas Ltda.
Rua 24 de Maio, 104-5°, Sao Paulo

AA-366

For more details circle NED-700 L1 on enclosed inquiry slip

NOW YOU CAN MAKE A ZIG-ZAG® WEB IN JUST 60 SECONDS*



Zig-Zag Web Bender Produces Accurately Sized Webs In Lengths From 20' to 90'.

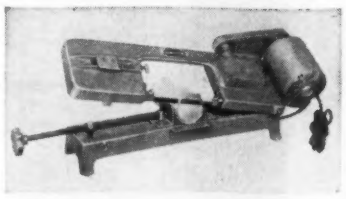
The Zig-Zag Web Bender obsoletes every other method of producing webs for joists by bending webbing faster and with greater accuracy.
One or two men can operate the Zig-Zag Web Bender and produce several times the output possible with old fashioned bending.
Depth, pitch and radius of bends are precise and consistent in their precision in every bend, resulting in fewer slow-ups on the welding line.
For complete technical details on the Zig-Zag Web Bender write to:

*10' Long—16" High—12" Pitch

National Bending Machinery Corp.
110 STATION STREET • JOHNSTOWN, PA.

▲ For more details circle NED-701 L1 on enclosed inquiry slip ▲

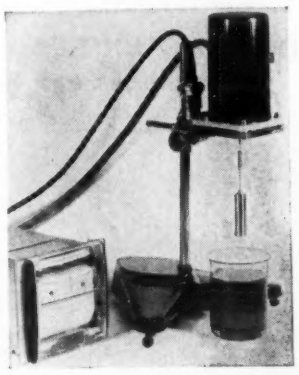
PORTABLE BAND SAW
1/4-hp unit cuts 3 1/2-in. diameters



Weighing only 42 lb, including 1/4-hp motor, the Little G portable metal-cutting band saw cuts 3 1/2 x 6-in. rectangular and 3 1/2-in. diameter work. On a 45-degree angle, it handles workpieces up to 3 1/2 x 3 in. The horizontal-type machine uses a 59-in. long, 1/2 x 0.020-in. blade, and stays within 0.005 in. on a 3-in. cut. Counterbalanced cutting assembly operates automatically once material is clamped in the vise. Unit has 25 1/4 x 7-in. bed, automatic shut-off switch, anti-friction ball bearings, and a 10-pitch worm gear drive that operates in oil. Front bed extension is provided for facing operations. • **Griscer Industries, Inc.**, Box 327, Garrett, Ind.

▲ For more details circle NED-704 L1 on enclosed inquiry slip ▲

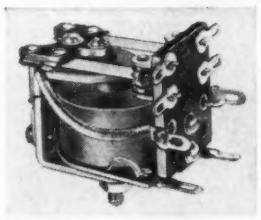
RECORDING VISCOMETER
reads directly in centipoises



Rheolog lab-type recording/indicating viscometer will determine such non-Newtonian properties as pseudo-plasticity, plasticity, and dilatancy. Flow curves of thixotropic, rheopectic, time dependent, and temperature dependent materials can also be obtained with the continuous-operating instrument which is read directly in centipoises. It is portable and explosion-safe, compatible with standard indicating or recording equipment, and available with pneumatic or electric signal transmission. Depending upon model (1, 4, or 8 speed), readings are obtainable from 0 to 64 million cps; maximum to minimum ratio can be as high as 80,000:1. Remote transmission is possible to 100-ft distances. • **Viscosel Corp.**, Box 240, Stoughton, Mass.

▲ For more details circle NED-705 L1 on enclosed inquiry slip ▲

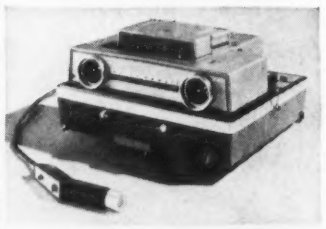
RELAYS
in standard, special coil voltages



Single-pole double-throw, double-pole double-throw, and triple-pole double-throw contact arrangements are available in MG Series general purpose relays. They are made in standard and special coil voltages and resistances. Operating power is 1.5 w for the direct current model and 2 to 3 va for the alternating current type. The 2-oz unit measures 1.183 x 1.811 x 1.343 in. Dust tight and hermetically sealed enclosures are optional. • **Elgin National Watch Co.**, Electronics Div., 2435 N. Naomi St., Burbank, Calif.

▲ For more details circle NED-706 L1 on enclosed inquiry slip ▲

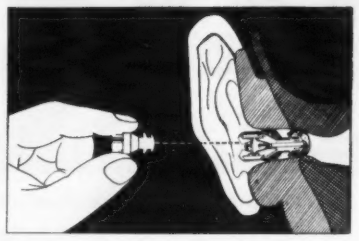
SLIDE PROJECTOR
slides change in fade-over effect



Slide changing in the Model 700A Tandem-Matic Professional slide projector occurs in a "lap dissolve" effect, with one slide slowly fading from the screen as another takes its place. This permits dramatic effects to be achieved by changing only certain elements of a scene in consecutive pictures. Unit is really two separate 7-element optical systems, housed side by side. Each has a 5-in. f/3.5 lens, and both use light from a single 750-w lamp. Synchronized blades close iris of one lens while opening that of the other. Change takes 1 1/2 sec. Fade-over can be arrested at any point for double exposure effect. Tray holds up to 54 Bantam, 35-mm, or Super Slides. Projector weighs 22 lb and is priced at $300, including case. A 7 1/2-in. lens is available. • **Bell & Howell Co.**, Photo Products Div., 7100 McCormick Rd., Chicago 45, Ill.

▲ For more details circle NED-707 L1 on enclosed inquiry slip ▲

MECHANICAL HEARING PROTECTOR



→ Lee Sonic EAR-VALVS (NOT EARPLUGS) are tiny ear-insert type hearing protectors that do not create even a partial sensation of deafness. They contain an inner mechanism which automatically removes the harmful energy components from noise while allowing wanted sounds to get through in a harmless state. The ear canal remains constantly open for normal air circulation. Lee Sonic EAR-VALVS safeguard the human hearing mechanism and afford the ultimate in hearing protection without plugging or sealing the ears. They overcome the resistance to wearing solid plugs which create a feeling of deafness—a condition comparable to being blindfolded and unable to see.
→Recommended by eminent ear specialists, the EAR-VALVS contain 18 precisioned, watch-like parts, completely hand assembled in tiny unbreakable cylinders. They are cushioned with non-allergenic, non-toxic Silicone rubber ear-inserts to guarantee healthful comfort and durability. A request on your company letterhead will bring you a trial pair on a 30-day return or purchase basis.
Sigma Engineering Co., 1608 Hillhurst Ave., Dept. 12, Los Angeles 27, Calif.

(Advertisement)

▲ For more details circle NED-708 L1 on enclosed inquiry slip ▲

End hose problems with long-life, economical

transfer hose of FLUOROFLEX

TEFLON† AT ITS BEST

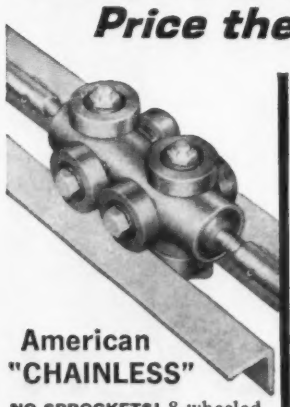
- **Unequalled** service life.
- **Fluoroflex*** liner is corrosion-proof and chemically inert.
- **Contamination-free** transfer of fine chemicals and pharmaceuticals.
- **Rugged:** reinforced with heavy-duty rubber jacket containing steel coil.
- **Liner extends** over face of flanged assemblies to provide leakproof, corrosion-proof joints.
- **Operating temperatures** to 300°F., 150 psi—1" to 6" diam.

SEND FOR THE FACTS TODAY. Resistoflex Corp., Roseland, N. J., Anaheim, Calif., Dallas, Tex.
*Resistoflex T.M. †Dupont T.M.

RESISTOFLEX RELIABILITY

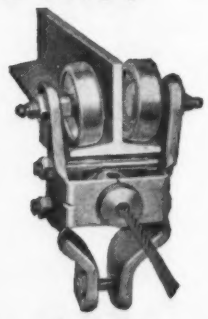
▲ For more details circle NED-702 L1 on enclosed inquiry slip ▲

CONVEYORS? *Price these two!*



American "CHAINLESS"

NO SPROCKETS! 8-wheeled trolley rolls around curves. Two, three or four-rail track is used on levels, curves or inclines, as needed. Solid steel rods with ball-socket joints connect the trolleys. The in-line drive is ideal for in-the-floor tow-type, pallet or overhead installations. Drive indexes precisely. For loads to 400 lbs. per hanger.



American "CABLE-WAY"

COMPACT! Smallest sprocket is only 15 1/4" diameter. Four trolley capacities: 80, 125, 160 and 250 lbs. per hanger. Trolley side-plates bolt over factory-positioned drive lug. Track bolts together. Conventional sprocket drive. Smooth, quiet, exceptionally low in price. Ask for Catalog CD-B.

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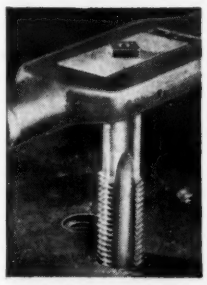
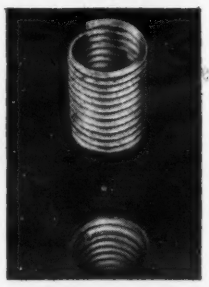
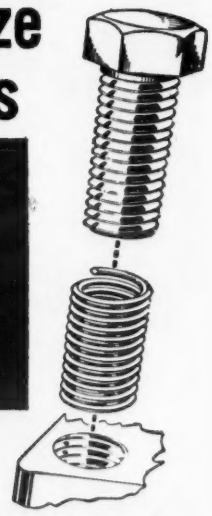
CONVEYOR DIVISION
THE AMERICAN MONORAIL CO.
Fourth & Franklin Streets • Tipp City 7, Ohio
In Canada: Canadian MonoRail Co. • Galt, Ont.

▲ For more details circle NED-703 L1 on enclosed inquiry slip ▲

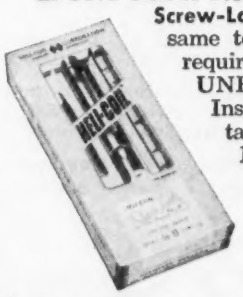
Permanent thread repairs "on-the-job" without welding, plugging or oversize screws







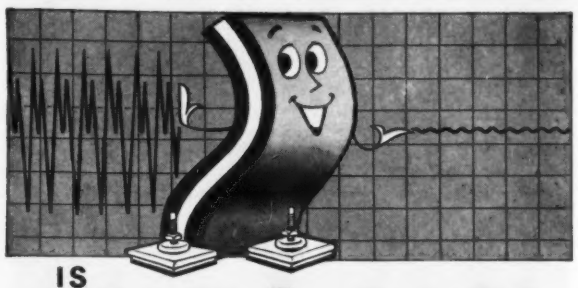
Eliminate costly down-time and production delays . . . restore damaged threads to *original* size permanently and quickly with ***HELI-COIL®*** Stainless Steel Wire Screw Thread Inserts. No need to weld, plug, use oversize screws, or replace damaged parts—just drill, tap and install a ***HELI-COIL*** Insert. Made of precision-formed coils of diamond shaped, 18-8 stainless steel wire . . . they resist wear, corrosion, galling, stripping and seizing—give stronger, life-time threads.
Screw Thread Shop-packs contain tap, inserting tool and inserts in sizes required. Available in UNC 6-32 to 1 1/2-6; UNF 6-40 to 1-14.



Screw-Lock Shop-packs include the same tools, with inserts in sizes required. UNC 6-32 to 1-8 and UNF 6-40 to 1-14. Screw-Lock Inserts provide all the advantages of Screw Thread Inserts, PLUS an exclusive internal locking feature that eliminates lock nuts, lock washers and lock wiring.
Ask for Bulletins 724D and 766A. 2867

HELI-COIL CORPORATION
3411 Shelter Rock Lane, Danbury, Conn.
In Canada: ARMSTRONG BEVERLEY ENGINEERING LTD. 6975 Jeanne Mance St., Montreal 15, Que.

▲ For more details circle NED-709 L1 on enclosed inquiry slip ▲



IS

VIBRATION

ROBBING YOU BLIND?

Unisorb® machine mounts—either pads or Level-Rite devices—reduce up to 85% of transmitted vibration and provide a practical, low-cost solution to almost all vibration problems. Unisorb Vibration Control reduces noise, worker fatigue and human inefficiency. Unisorb will reduce maintenance of buildings and machines, cut down-time and simplify machine installation. In addition, tests show that Unisorb permits running machines at higher speeds and closer tolerances for increased production and improved quality.

Unisorb Mounting Pads | Unisorb Level-Rite 200 | Unisorb Level-Rite Mount

UNISORB Division of The Felters Co. 224 South St., Boston 11, Mass.

For more details circle NED-710 L1 on enclosed inquiry slip

COMPACT 'LITTLE STEVE'

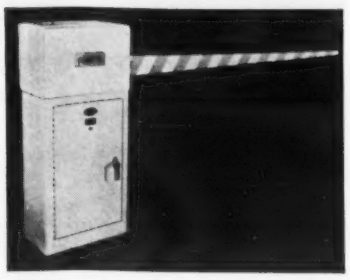
PRECISION-PLATES OR PROCESSES SMALL PARTS AUTOMATICALLY!

Only 4 feet high by 6 feet wide, 'Little Steve' is the smallest, completely automatic barrel plating machine available. It offers top mechanical flexibility to meet all of your precision finishing requirements; is inexpensive to buy, install and maintain. Features low ceiling height, light floor load, oblique barrels that require no lids, automatic loading and unloading. Designed for integrated process manufacturing. Keeps solution and anode requirements at a minimum. Investigate 'Little Steve' today, start cutting your plating costs **NOW!**

FREDERIC B. STEVENS, INC • DETROIT 16, MICH.

For more details circle NED-711 L1 on enclosed inquiry slip

AUTOMATIC PARKING SYSTEM designed for industrial lots



Cheatproof operation of industrial parking lots without attendants is possible with this redesigned gate-controlled parking system using the Parcoa Low-Boy gate. Painted traffic yellow, the unit has a long, low gate arm that is opened when a motorist throws the proper amount (5 cents to $1.35) into a coin hopper on top. Operation is by coins, tokens, coded card-keys, and ticket-dispensing controls or various combinations. An automatic capacity counter lights a "Lot Full" sign when a preset number of cars has entered. Instant reversing gate control speeds traffic flow during rush hours. • **Johnson Fare Box Co.**, Parcoa Div., Dept. NED, 4619 N. Ravenswood Ave., Chicago 40, Ill.

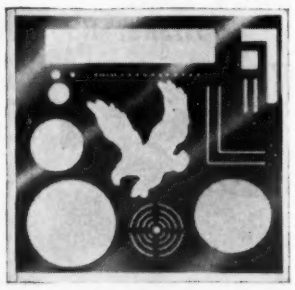
For more details circle NED-713 L1 on enclosed inquiry slip

SOCKET NUTDRIVERS nine sizes from 3/16 to 5/8 in.

Socket design of Hold-E-Zee nutdrivers assures good nut holding for easy application and allows use of a wrench for applying extra torque. Tools are made in nine sizes from 3/16 through 5/8 in. and have shock-proof Tenite II handles which are twistproof and unbreakable. The ND-5 vinyl roll-up kit which lists for $5.30 has five drivers in socket sizes 3/16 to 3/8 in. Kit ND-7 with seven drivers from 3/16 through 1/2 in. sells for $7.75. Also offered is a plastic bench stand with seven of the most often used nutdrivers. • **Upson Bros., Inc.**, Terminal Bldg., Rochester 14, N. Y.

For more details circle NED-714 L1 on enclosed inquiry slip

SHAPE CUTTING ATTACHMENT for metal cutting machines



Practically any shape can be cut in sheet or plate by the Universal attachment which fits all Model P pullmax metal cutting machines. It moves on ball bearings in any direction and cuts to extreme accuracy. A special device will hold any template so that several duplicate copies can be made. Attachment is quickly mounted on or removed from the machine. • **American Pullmax Co.**, 2455 Sheffield Ave., Chicago 14, Ill.

For more details circle NED-715 L1 on enclosed inquiry slip

WON'T WARP, WEAR OR CORRODE

NEW Rubber-Armored, Rubber-Hinged CLARK DURADOR

Self-closing DURADOR takes all the punishment your fork truck jockeys can dish out. Permanently-bonded rubber coating prevents gouging, splintering.

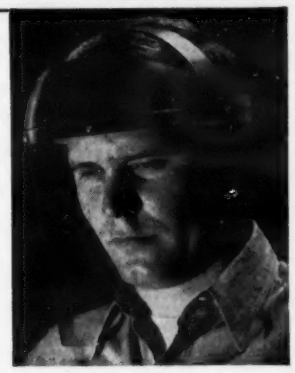
Full-length flexible rubber hinges prevent misaligning — return DURADOR to closed position every time. Combines the best of a rigid door with a rubber curtain. Never needs maintenance. Applies easily at any doorway. Comes in all standard industrial doorway sizes.

Isn't this the door you've been wanting? Write today for details.

CLARK DOOR COMPANY, INC. (since 1878) 511 Hunterdon St., Newark 8, N. J.

For more details circle NED-717 L1 on enclosed inquiry slip

New from AO



Economical Lightweight Face Shield Offers Full Protection

New AO H9 Face Shield is cool, comfortable . . . gives full facial protection. Its 3¾ oz. plastic headgear presets in 1/8 increments from size 6 to 8¼. Deep spark deflector is coated to resist moisture, keeps particles from entering top, protects forehead. Automatic friction joints require no adjustment. Easily replaced, comfortable, vinyl foam sweatband covers forehead.

All AO 'H' Series windows fit new H9 Headgear: clear or green acetate, aluminized acetate, 24 mesh steel screen, 283-1 "Kool-Vent" window. Patented slots permit expansion and contraction, reduce chance of warping and distortion. Call your AO Safety Products Representative for details and prices, or request Fact Sheet S-1851.

Your Surest Protection . . . AO SURE-GUARD Products

American Optical COMPANY SAFETY PRODUCTS DIVISION Southbridge, Massachusetts / *Safety Service Centers in Principal Cities*

For more details circle NED-718 L1 on enclosed inquiry slip

NEW

double-geared high-torque air motors

Torque ranges from 2 ft-lb to 638 ft-lb are now available with the addition of new Gardner-Denver double-geared axial piston air motors. Four new models feature the advantages of reliability and versatility common to all Gardner-Denver air motors. For details see your Gardner-Denver representative or write for Bulletin No. 70-101.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

GARDNER-DENVER

For more details circle NED-712 L1 on enclosed inquiry slip

REVERSIBLE

new fractional hp rotary air motors

. . . designed for close quarter or portable applications that require 1/8 or 1/4 hp. They feature lightweight . . . easy foot or flange mounting . . . quick stops and starts . . . continuous operation. Won't spark; can't burn out. This new packaged power is available in two series—71E1 and 71B2—reversible or non-reversible. See your Gardner-Denver representative for a demonstration or write for No. 71 bulletins.

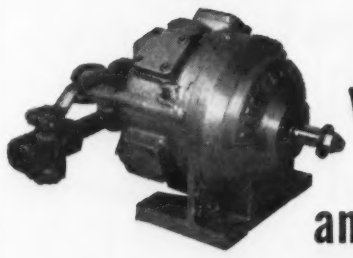
EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

GARDNER-DENVER

For more details circle NED-716 L1 on enclosed inquiry slip

AIR MOTORS



wide variety of types and capacities

Whatever your power needs from 1/8 to 16 hp, Gardner-Denver has an air motor to solve your problem. Rotary vane, axial piston and 5-cyl. radial types are available. All these motors offer variable speed power control, positive, instantaneous response and continuous operation. Won't spark—can't burn out. Reversible and non-reversible models. For more information, call your Gardner-Denver air power specialist or write for air motor bulletins.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd., 14 Curity Ave., Toronto 16, Ontario

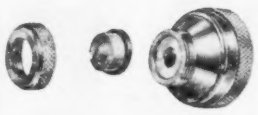
GARDNER-DENVER

For more details circle NED-719 L1 on enclosed inquiry slip

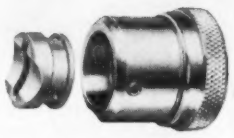
For long-life rugged duty...

3 NEW SPRAY NOZZLES

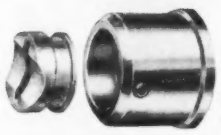
Nitralloy or Tungsten Carbide components resist corrosion



Style 1—For spraying standard viscosity paints and road marking applications.
For models 29, 19, 18, 18D, 21 Spray Guns



Style 2—For spraying medium and heavy viscosity paints.
For model 18D Spray Gun



Style 3—For spraying heavy viscosity paints and high speed road marking applications.
For models 7E2 and 33 Spray Guns

Write for Bulletin No. A46-2 for complete details

Binks Manufacturing Company, 3118-B Carroll Ave., Chicago 12, Ill.
REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY 1340

Binks Everything for spray painting

For more details circle **NED-720 L1** on enclosed inquiry slip

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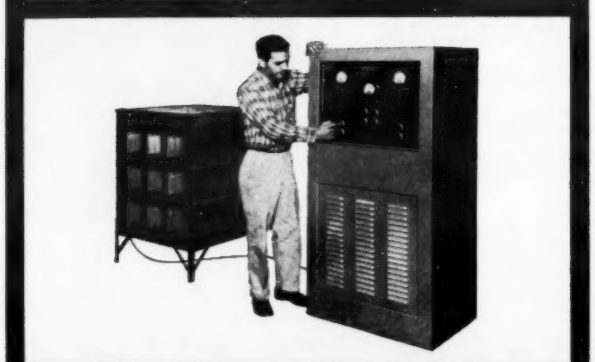
CLEANING PROBLEM?
SONOGEN® Ultrasonic Cleaners by BRANSON may be your answer!



Experienced counsel in planning, installation, and maintenance of ultrasonic cleaning systems. Wide range of standard, use-proven units combine into efficient cleaning systems with any needed features and capacity from benchtop size to the largest engineered batch or conveyorized installation. Assured nationwide service by factory-trained specialists. Tell us your problem.

BRANSON ULTRASONIC CORPORATION
56 Brown House Road • Stamford • Connecticut

For more details circle **NED-721 L1** on enclosed inquiry slip

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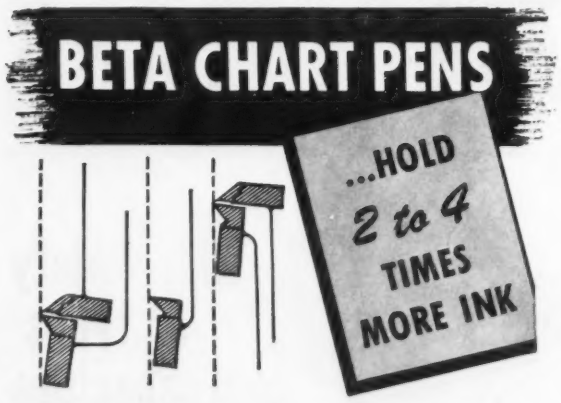
BETA CHART PENS



Beta Fountain Pens hold two to four times the ink of ordinary chart inking pens. Regardless of the line thickness Beta Pens produce a smooth unbroken and uniform line. Pens shown are approximately actual size and can be arranged to reduce time interval between static and differential lines to only a few minutes. Beta Pens are especially suitable for seven day records. Price $1.25 (lower prices in quantities).

Send for Bulletin No. 110-R3
Available for Early Delivery

ARCCO INSTRUMENT COMPANY, INC.
7144 EAST CONDOR STREET • LOS ANGELES 22, CALIF.
MANUFACTURERS OF PRECISION INSTRUMENTS

For more details circle **NED-722 L1** on enclosed inquiry slip

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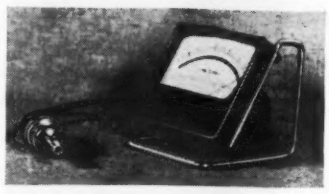
VACUUM GAGES
in three ranges to 20 mm Hg



Self-contained transistorized circuitry is attached directly to the rear of Compact vacuum gages which mount in any panel and require only a standard meter cut-out. They can also be furnished with a polished brass stand (illustrated) or in a cabinet for bench or desk use. Gages operate on the thermopile principle and have built-in miniaturized switching attachments for monitoring of up to five positions with one instrument. Three ranges cover 0.2 micron Hg through 20 mm Hg. Matched interchangeable gage tubes, color coded for each range, incorporate ambient and rate-of-change of ambient temperature compensation. Price is $110 with gage tube. • **Hastings-Raydist, Inc.,** Dept. 10, 1500 Newcomb Ave., Hampton, Va.

For more details circle **NED-723 L1** on enclosed inquiry slip

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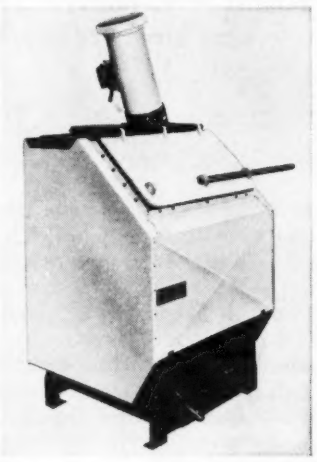
SMOKELESS INCINERATOR
burns any wet or dry waste



Up to 200 lb of wet or dry No. 1 waste can be burned hourly by the Model C-100 incinerator at a fuel cost of about 15 cents, and with no trace of odors, fly ash, or smoke. The 13½-cu ft portable unit measures 54 x 36 x 84 in., including its smokeless and odorless stack. Little maintenance is required, and installation consists of connecting to 115 v ac and a gas line. • **Cornell-Hoskinson Mfg. Corp.,** 806 Third Ave., New Hyde Park, N. Y.

For more details circle **NED-724 L1** on enclosed inquiry slip

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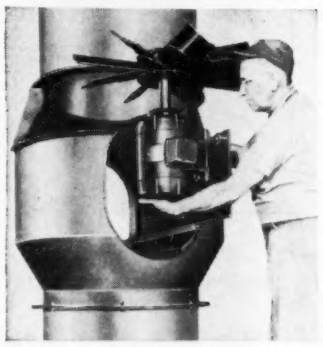
DUCT FANS
optional slide-out eases servicing



A slide-out feature is available optionally on Bifurcator duct fans used for exhausting corrosive fumes or gases which are abnormally hot or inflammable. Motor is mounted in a special chamber and thus isolated from destructive fumes. Fan and motor assembly slides out on rails for quick, easy inspection while Bifurcator housing remains in the duct. This is accomplished by removing a half-section of the housing cone. Fans are made in 12 to 48-in. wheel sizes and powered by motors rated from 1/20 to 20 hp, with free deliveries from 913 to 54,200 cfm. • **American Machine & Metals, Inc.,** DeBothezat Fans Div., East Moline, Ill.

For more details circle **NED-725 L1** on enclosed inquiry slip

---

FLUORESCENT LIGHTING FIXTURE
can be moved from place to place

Equipped with cord and plug set and a chain hanger, the Factory Lite industrial fluorescent lighting fixture can be moved from place to place as needed, or permanently installed.

The two-lamp, rapid-start unit is rated 40 w and measures 48½ x 13⅞ in. over-all with a depth of 6¼ in. It is wired for 110 v, 60 cycles, although other voltages and cycles are available. Components have a white baked enamel finish over phosphate coating. The relatively low cost fixture can be surface or pendant mounted. • **Light & Power Utilities Corp.,** Olive Branch, Miss.

For more details circle **NED-726 L1** on enclosed inquiry slip

---

MAGNETIC PICKUP
Experimental Assortment

Solve 100's of speed measurement and control problems simply and economically

Electro Magnetic Pickups generate voltage/frequency in proportion to the speed of any ferrous metal objects interrupting their magnetic field . . . *without* physical contact. They actuate electrical or electronic circuitry, counters, relays, etc.

Complete with 4 pickups, AN connector, plastic box, operating instructions and performance data.

A few of 100's of applications
- Indicate • Synchronize
- Control • Actuate instruments
- Provide data for telemetering

Order SK-80 Assortment Today, or Write for Information.

1936-1961 25th ANNIVERSARY

ELECTRO PRODUCTS LABORATORIES
4501-X Ravenswood, Chicago 40, Illinois
Canada: Atlas Instrument Ltd., Toronto

For more details circle **NED-727 L1** on enclosed inquiry slip

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...TIME PROPORTIONING TEMPERATURE CONTROLLER with ADDED SAFETY CIRCUIT

Designed for controlling the temperature for all plastic molding and heat sealing machines, heated dies, ovens and cooking vessels.

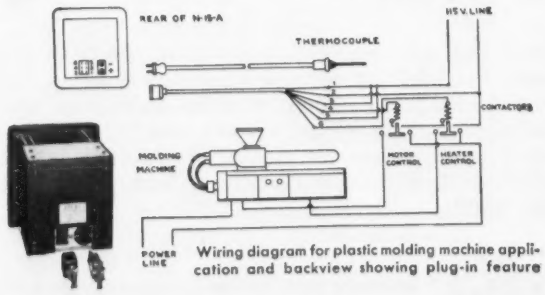
The added safety features of the New Alnor Pyrotroller makes it a distinctive instrument in the temperature control field.

A special circuit prevents starting the production machine before the temperature of the material handled is up to the correct operating temperature. This same circuit will automatically shut down the machine if the heat source fails to keep the material up to the correct operating temperature thus preventing mechanical damage to the machine.

This safety feature is equally valuable on heat sealing machines or cooking vessels to prevent operating at a temperature that would result in a faulty product.

The Pyrotroller operating parts are few in number and of a high order of reliability. Each component is oversize for its required performance to permit operating well below its rated capacity. This engineering philosophy results in a very reliable instrument of long trouble free field life. The extremely rugged construction of the Pyrotroller makes it highly resistant to machine vibration and its unusual accuracy in proportioning the heat supply enables it to maintain the optimum temperature at all times.

Scale ranges 0-400° F to 0-3000° F
Engineering service available on special applications

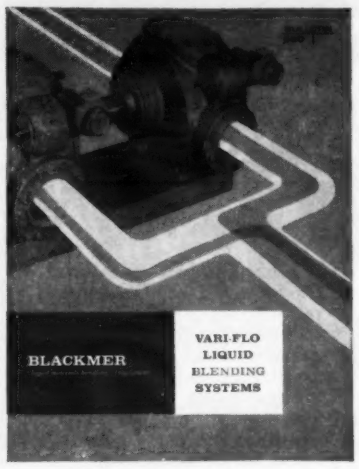


Wiring diagram for plastic molding machine application and backview showing plug-in feature

ALNOR INSTRUMENT CO.
Division of Illinois Testing Laboratories, Inc.
Room 529, 420 N. LaSalle St., Chicago 10, Ill

For more details circle **NED-728 L1** on enclosed inquiry slip

DON'T BATCH IT BLEND IT !



FREE VARI-FLO BLENDING SYSTEMS CATALOG

Let Blackmer Vari-Flo in-line blending systems help solve your processing problems. Continuous blending right in the pipeline lowers requirements for storage tanks, costly inventories of blended stocks. You "dial the blend" . . . deliver directly into tanks, trucks or cars. Vari-Flo systems are accurate, but vastly more simplified than most proportioning equipment you know about. Lower initial cost, low operating and maintenance costs may allow you to enjoy the benefits of in-line blending where you couldn't afford it before. **See us in Refinery Catalog or write for free Bulletin 650.**

"liquid materials handling"® equipment

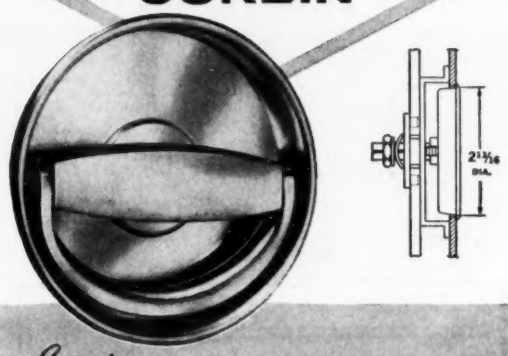
BLACKMER / blending systems

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN

▲ For more details circle **NED-729 L1** on enclosed inquiry slip ▲

Smart and Functional

CUP and DROP HANDLES by CORBIN

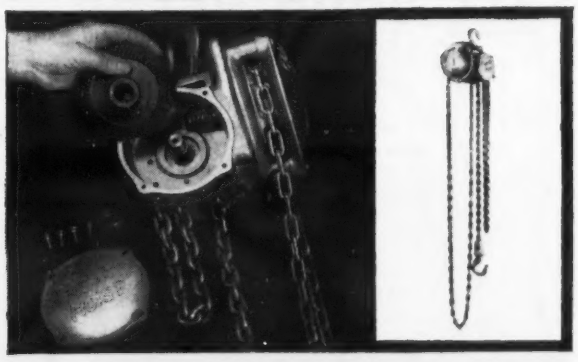


Smartness distinguishes these new CCL Cup and Drop Handles. They come in bronze (chrome finish if desired) or anodized aluminum. Choice of 1-, 2- and 3-point latching mechanisms. Cups are wrought; handles and drop rings cast. Illustrated is No. 02505-3/4. Other CCL Cup and Drop Handles available in various sizes and functions. Write for details.

CORBIN

CORBIN CABINET LOCK DIVISION
THE AMERICAN HARDWARE CORPORATION
NEW BRITAIN, CONNECTICUT

▲ For more details circle **NED-730 L1** on enclosed inquiry slip ▲



NEW COFFING PORTA-HOIST

Spiroid* Gear Transmission · Aluminum Alloy Housing

The new Coffing hand chain PORTA-HOIST with its exclusive Spiroid gear transmission has fewer moving parts to wear, assures you of long dependable service with low maintenance. It also provides strength and safety as the gearing has more teeth in contact.

The aluminum alloy housing and the compact power package gives you a hoist that is easily portable.

The Porta-Hoist line has 11 models with ½ to 12 tons capacity. Write for Bulletin ADH-76-N.

*Spiroid® is a registered trade name by Illinois Tool Works.

COFFING HOISTS

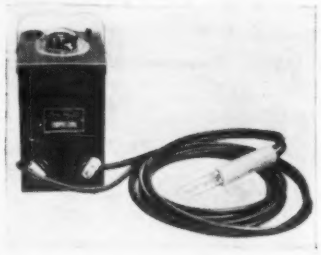
DUFF-NORTON

DUFF-NORTON COMPANY

Four Gateway Center • Pittsburgh 22, Pa.

▲ For more details circle **NED-731 L1** on enclosed inquiry slip ▲

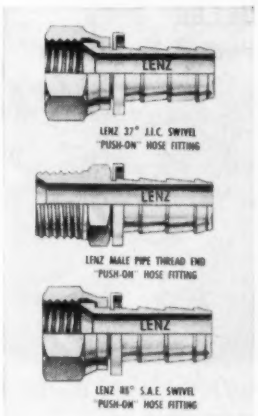
ELECTRIC HOT KNIFE
for sealing and cutting operations



Equipped with a low voltage power supply and variable manual control, this electrically heated hot knife has a standard blade temperature of 950° F. It can be used as a rigid spatula for application of Koroseal or Tygon tank linings, or for trimming gates, sprues, and excess from molded rubber and plastics as well as for cutting rubber sheeting and thermoplastic fabrics. Nickel-chromium knife blade can be bent or curved for unusual shaping or sealing uses. It measures 4 x 1 x 1/16 in. and has a wooden handle. Temperature can be increased by reducing width or thickness. • **Sta-Warm Electric Co.**, 626 N. Chestnut St., Ravenna, Ohio.

▲ For more details circle **NED-732 L1** on enclosed inquiry slip ▲

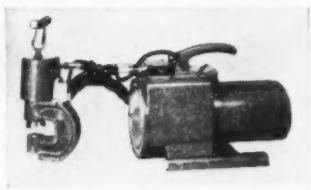
HOSE FITTINGS & ASSEMBLIES
for 250-psi air, water, oil service



Push-On hose fittings and assemblies designed for air, water, and oil service at pressures to 250 psi feature barbed stems that lock the fitting in the hose without need for external clamps or ferrules. Fittings are reusable and include SAE 45-degree swivel, JIC 37-degree swivel, and male pipe thread end types in a range of sizes for ¼ to ¾-in. ID hose. Assemblies have seamless, single fabric braid hose with synthetic inner liner and braiding that assures flexibility and strength. Fittings are made of brass with cadmium plated steel nuts. Hose has −40 to 250° F temperature range when used with most fluids. • **Lenz Co.**, 3301 Klepinger Rd., Dayton 1, Ohio.

▲ For more details circle **NED-733 L1** on enclosed inquiry slip ▲

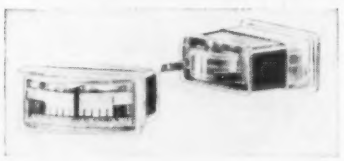
HYDRAULIC POWER UNIT
rated for operations to 5000 psi



Either double or single acting cylinders can be operated by the 700-T-½ hydraulic power unit. It delivers 120 cu in. at 200 psi for rapid approach and 38 cu in. at 5000 psi during work stroke. Maximum output is obtained from the ½-hp motor through two-stage pumping. Fluid flow is controlled by direction of motor rotation. Motor can be started under full load and runs only when ram is moving. Port manifold allows installation of external adjustable relief valves or pressure switches in block-insert form. Basic pump is in cartridge form and accessible for servicing. Supplied for 110-v, 60-cycle and 220-v 50-cycle single-phase operation, unit has O-ring sealed sight glass and carrying handle. • **W. A. Whitney Mfg. Co.**, 636 Race St., Rockford, Ill.

▲ For more details circle **NED-734 L1** on enclosed inquiry slip ▲

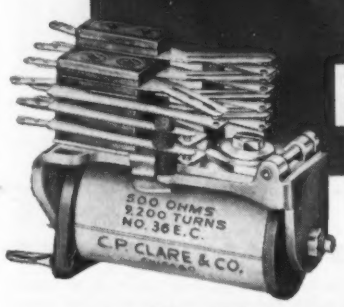
ELECTRICAL METER
edge-reading type can be stacked



Dimensions of two models of edge-reading meters allow them to be stacked or easily assembled into equipment. Miniature Model 12 null-type zero-center tuning indicator with single floating coil type movement is 1¼ in. long and 9/16 in. high. Standard nulling ranges are from 500-0-500 microamperes to 3-0-3 ma. It can also be used as a maximum deflection type meter. Model 13 reads various alternating and direct current ranges from 1 ma to 100 amp with 3 to 5 per cent accuracy, depending upon range. Used as a voltmeter, ranges vary from 50 mv to 300 v. It is 1 13/16 in. wide and ¾ in. high. Special ranges can be specified. • **Electro-Mechanical Instrument Co.**, Eighth & Chestnut Streets, Perkasie, Pa.

▲ For more details circle **NED-735 L1** on enclosed inquiry slip ▲

70,000,000 operations with no contact failure... a CLARE TYPE J RELAY Record



You can buy these superior Clare relays from your nearby Clare Distributor

CLARE Type J Relays, with their small size, twin-contact design and superior performance, are first choice of design engineers for applications where component failure is intolerable. Recent tests of standard Type J Relays, discontinued after 70,000,000 operations, showed no contact failures.

Clare Type J Relays, as well as such CLARE products as Mercury-Wetted Contact Relays, CLAREED Relays, Stepping Switches and small, sealed Type F Relays await your order at your nearby CLARE Relay Distributor.

IMMEDIATE DELIVERY AT FACTORY PRICES

EAST

R & D Supply, Inc.
1492 Highland Ave.
Needham 92, Mass.
Tel: Hillcrest 4-4500

Avnet Electronics Corp.
70 State Street
Westbury, L.I., New York
Tel: Edgewood 3-5800

Electronic Wholesalers, Inc.
1301 Hibiscus Boulevard
P. O. Drawer 1655
Melbourne, Florida
Tel: PA 3-1441

Electronic Wholesalers, Inc.
9390 N.W. 27th Ave.
Miami 47, Florida
Tel: Oxford 6-1620

CENTRAL

Relay Sales, Inc.
P. O. Box 186
West Chicago, Illinois
Tel: 231-1100

Srepco, Inc.
314 Leo Street
Dayton 4, Ohio
Tel: Baldwin 6-2546

Pioneer Electronics Supply Co.
5403 Prospect Avenue
Cleveland 3, Ohio
Tel: 432-0010

M G Electronics & Equip. Co.
201-3 South 18th Street
Birmingham 3, Alabama
Tel: FA 2-0449

SOUTHWEST

Engineering Supply Co.
6000 Denton Drive
Dallas 35, Texas
Tel: Fleetwood 7-6121

Engineering Supply Co.
1124 East Fourth Street
Tulsa 20, Oklahoma
Tel: Luther 3-8121

Harrison Equipment Co., Inc.
1422 San Jacinto St.
P. O. Box 1505
Houston 1, Texas
Tel: Capitol 4-9131

Radio Specialties Co., Inc.
6323 Acoma Road, S.E.
Albuquerque, New Mexico
Tel: Amherst 8-3901

Radio Specialties Co., Inc.
209 Penn Avenue
Alamogordo, New Mexico
Tel: Hemlock 7-0370

PACIFIC COAST

Puget Electro Products
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Tel: Parkway 5-9700

Bell Electronic Corporation
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Gardena, California
Tel: Faculty 1-5802

Bell Electronic Corporation
1070 O'Brien Drive
Menlo Park, California
Tel: Davenport 3-9431

Bell Electronic Corporation
8072 Engineers Road
San Diego 12, California
Tel: Browning 8-4350

C. P. Clare & Co., 3101 Pratt Blvd.
Chicago 45, Illinois

C. P. CLARE & CO.

Relays and Related Control Components

▲ For more details circle **NED-736 L1** on enclosed inquiry slip ▲

FABRICATED PLASTIC PARTS

SINCE 1931 EXTRUDERS A FABRICATORS ACE

ACE is one of America's leading suppliers of precision plastic parts for thousands of different uses. Any shape, form or color. Any type of plastic. Small runs or large runs. Many items in stock. Quick, low-cost service on specials. Ace also supplies a huge variety of plastic extrusions and seamless balls. Write, wire or call for samples, prices and technical bulletins.

ACE PLASTIC CO. 91-28 VAN WYCK EXPWY, JAMAICA 35, N. Y. • JAMAICA 3-5500

For more details circle **NED-737 L1** on enclosed inquiry slip

as low as **$49.50**

Check the Versa-Tran* for low-cost, accurate, automatic control of

- TEMPERATURE
- PRESSURE
- LIQUID-LEVEL
- HUMIDITY

This inexpensive controller is completely transistorized. Needs no tubes, no warm-ups . . . gives instant reaction. Works with sensors that can be thermisters, probes, resistance bulbs, pressure transducers or humidity elements. Versa-Tran can be used in packaging machines, injection molding, cooking vats, tire recapping, ice cube makers, etc. Models with standard case available as low as $39.50.

* Trademark

Honeywell

First in Control

For more details circle **NED-738 L1** on enclosed inquiry slip

USE THE

Nissen

BALL POINT WRITING TUBE

make permanent marks on

metal
wood
plastic
glass

This ball point marker saves considerable time in marking, numbering or coding products made of wood, metal, plastic and glass. It is widely used because:

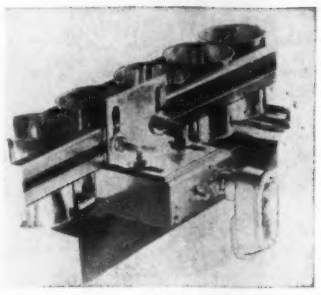
• tube with ball point makes application easy on rough or smooth surfaces • special, fast drying opaque ink withstands heat and weathering • marks will not chip, peel, fade or rub off • 7 different colors are available • 3 different size ball points make fine or broad lines

Write, wire or call for a trial order

JOHN P. NISSEN, JR. Co., *manufacturers*
GLENSIDE, PENNSYLVANIA • CALL TUrner 4-4664

For more details circle **NED-739 L1** on enclosed inquiry slip

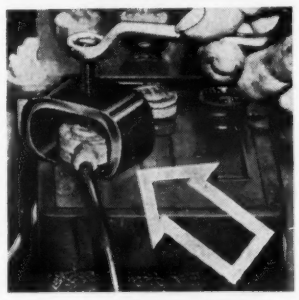
METALS SENSOR
for handling cans, foil packages



Transistorized All-Metals Sensor with increased sensitivity allows time delay proximity control of aluminum cans, aluminum capped bottles, foil wrapped packages, or bottles with foil labels. This type of control of line flow provides in-transit surge storage of containers in lines to prevent production losses; stops lines and equipment in sequence when stoppages occur; prevents packages from backing up into infeed equipment; and keeps several machines supplied with containers regardless of fluctuations in the supply. Sensing circuit is stable under adverse conditions and will operate at temperatures from freezing to above 140° F with little change in sensitivity. Sensor can be wired into present Peco time-delay control panels. • **Peco Corp.**, 111 Ortega Ave., Mountain View, Calif.

For more details circle **NED-740 L1** on enclosed inquiry slip

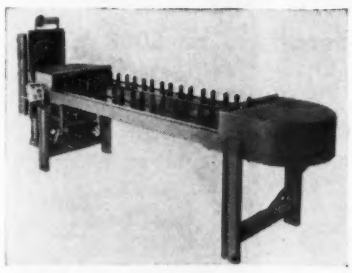
BATTERY TERMINAL PULLER
easily removes corroded terminals



Badly corroded terminals are easily removed from a battery by the BT-3004 battery terminal puller, a C-shaped heavy steel band with a hex screw threaded through the top. Edges at the C-opening are sharpened to facilitate working them under the terminal clamp. The hex screw, when turned with a wrench, bears on the battery post to pull the terminal free. Device is priced at $2.45. • **Borroughs Tool & Equipment Corp.**, 2429 N. Burdick St., Kalamazoo, Mich.

For more details circle **NED-741 L1** on enclosed inquiry slip

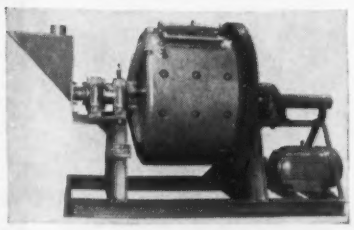
PRECISION TRANSFER MACHINE
cycles at 2000 pieces per hour



Cam-and-roller index drive, plus close tolerance chain and platen linkage, assure accurate fixture locating on the Carrousel Conveymatic precision transfer machine. It facilitates assembly and testing of components at cycle rates up to 2000 pieces per hour. Individual fixtures can be located on any of the 26 platens within ±0.010 in., with anvil-type support in all directions for pressing or staking. Standard machines are offered in 10 to 50-ft lengths with either mechanical cam-and-roller, hydraulic servo, or electromechanical index drives. Index range is from 3 to 18 in. Options include index and dwell rates, full-length camshaft, ground tooling plate, and automatic lubrication. • **Visi-Trol Engineering**, 12720 Burt Rd., Detroit 23, Mich.

For more details circle **NED-742 L1** on enclosed inquiry slip

CONTINUOUS TUBE MILL
grinds chemicals, pigments, metals



Continuous feed and discharge tube mills for grinding chemicals, pigments, frit, metals, and other materials are available in 2 to 6-ft diameters and lengths from 2 to 20 ft. Class V units have a pneumatic classification system, hollow trunnions and an internal screw feeder. Speeds can be changed within the range of 40 to 80 per cent critical. Mill is water jacketed and can be furnished with or without ceramic or alloy steel lining. Features include a feed hopper, replaceable lifter bars, totally enclosed motor, and variable pitch sheave. Large door facilitates changing products. • **Economy Mfg. Co.**, Railroad Street, East Liverpool, Ohio.

For more details circle **NED-743 L1** on enclosed inquiry slip

air dries . . . resists corrosion

HEAT-REM H-120A

for 1200° temperatures

Heat-Rem H-120A is the ideal coating for temperatures up to 1200° F. It's easy to use . . . air dries without baking to an attractive hard aluminum coating in 6 hours . . . resists industrial fumes, most acids, salt spray and weathering.

Of extra heavy viscosity, H-120A is economical for either interior or exterior use. It is recommended for exhaust manifolds, mufflers, boilers, heat lines, pickling and boiling vats, etc.

Heat-Rem H-120A meets or exceeds government and industrial specifications. Brush, spray or dip application.

A-4066A

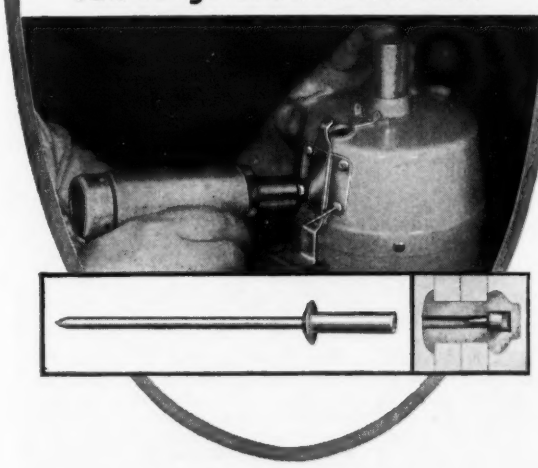
$10.85 PER GALLON

SPECO, Inc. "REM" PRODUCTS

Cleveland 9, Ohio

For more details circle **NED-744 L1** on enclosed inquiry slip

ONE OF THE ONE DOZEN REASONS WHY UNITED "POP"® RIVETS run rings around the rest



THE RIGHT BLIND RIVET FOR ALL YOUR NEEDS

For example, the application shown above (blind-riveting holding plates to the tanks of Regina Electrikmops) calls for a fastener combining watertightness with fast, economical setting. Ideal for the job is the exclusive "POP" **Closed-End** Rivet that seals as it sets and is gas and liquid tight. Preferred for general use, the "POP" **Open-End** Rivet provides a partial (but not pressure tight) seal. United also offers special "POP" Rivets such as Large Flange type for joining plywood and Long Mandrel type for mounting Fiberglas insulation.

SEE FOR YOURSELF . . . how United (and only United) offers the right blind rivet to do all your jobs faster, better! Send for one of these "POP" Rivet Introductory Kits today, containing a hand tool and a selection of rivets, together with application data. $19.95 prepaid. Or, better still, see your local "POP" Rivet Distributor.

UNITED "POP" RIVETS

FASTENER DIVISION
United Shoe Machinery Corp.
2128 River Road
SHELTON, CONNECTICUT
U.S.A.

For more details circle **NED-745 L1** on enclosed inquiry slip

DON'T WORRY!

USE...

NUMBER

685

SAFETY SOLVENT

COLD SOLVENT DEGREASER

- OPEN CUP FLASH.....195°F
- FIRE POINT.....200°F
- M.A.C. .....200-500 PPM
- K.B. RATING.....62

NON-CORROSIVE • NON-STAINING

For use on all metals, plastic, glass, ceramics. Will not effect insulation, resins, rubber, etc.

PECK'S PRODUCTS CO.

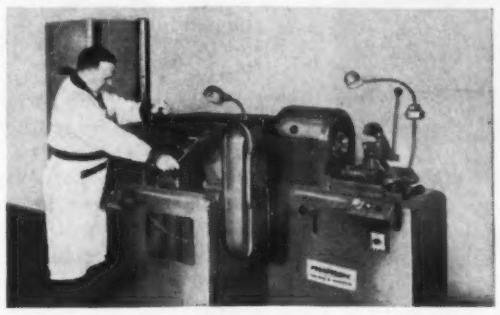
610 E. CLARENCE • ST. LOUIS 15, MISSOURI

For more details circle NED-746 L1 on enclosed inquiry slip

TUBE FLARING MACHINE

two station unit trims, squares, chamfers, flares 3/8-1 1/2 in. tubing

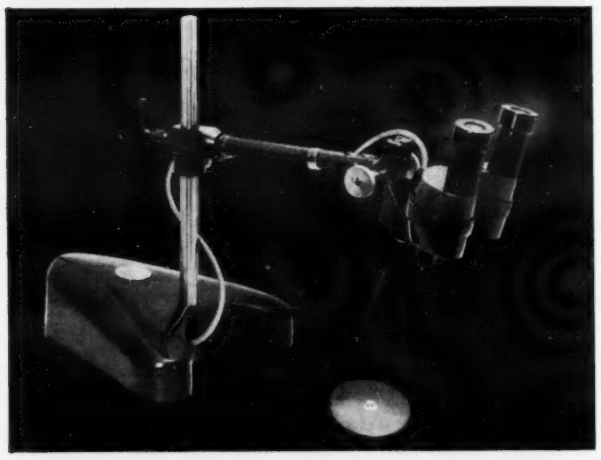
Aluminum, mild steel, stainless steel, brass, bronze, copper, and exotic metal tubing from 3/8 to 1 1/2 in. OD and with 0.028 to 0.049-in. wall thickness is handled



by this two-station precision flaring machine. First station trims and squares the tube end, then chamfers both inside and outside diameters. Station two flares the tube accurately within commercial tolerances.

Tubes are securely clamped in position during all operating stages. Electronic speed control system for the dc drive motor adjusts the duration of the flaring cycle, according to the type of metal tubing being worked. Controls are adjustable during operation. Variations of the machine are available for special uses. • **Progressive Welder & Machine Co.**, 915 Oakland Ave., Pontiac, Mich.

For more details circle NED-749 L1 on enclosed inquiry slip



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Crystal sharp stereoscopic image

Built-in focusable light source

Long 7" working distance — wide field

Stable base with universally adjustable mounting

Fixed magnification 10X and 20X models each $175

COOKE, TROUGHTON & SIMMS INCORPORATED

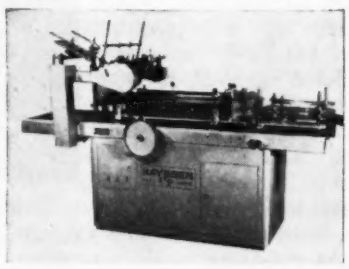
91 WAITE ST., MALDEN 48, MASSACHUSETTS

IN CANADA: DON MILLS, ONTARIO

For more details circle NED-747 L1 on enclosed inquiry slip

CARTON FORMING MACHINES

form heat and glue sealed cartons at speeds to 150 cartons per min



Newly acquired line of carton formers includes machines that will set-up and close heat sealable cartons at rate of 150 cartons per minute. Speed results from heating technique that minimizes dwell time for proper heat sealing. Poly-coated, vinyl-coated, and other heat-sealed cartons formed by these Pac-Form machines can frequently eliminate need for overwrapping, as in cases of frozen foods and perishable items.

Basic machine design is adaptable for handling conventional glue seal cartons as well. Each machine in the line can form cartons ranging from 1/2 to 6 in. high, 2 to 8 in. wide, and 4 to 14 1/2 in. long, using board weights from 8 to 28 pt. Machines will also form glue or heat-sealed trays. Units are also available for intermediate speed production at 80 cartons per min and 30 to 40 cartons per min with hand feed. • **Hayssen Mfg. Co.**, 1305 St. Clair Ave., Sheboygan, Wis.

For more details circle NED-750 L1 on enclosed inquiry slip

"6101"

THE RIGHT MACWHYTE

Cost-cutting "Safe-Lock" Cable Assemblies

Here's the way to reduce costs for machine parts, controls, and operating devices.

There are unlimited possibilities for "Safe-Lock" assemblies — and there are hundreds of standard combinations listed in Catalog 6101. They cost you less than making assemblies yourself in a non-specialized shop. "Safe-Lock" fittings develop the full strength of the wire rope. For safe, cost-cutting, efficient, top quality cable assemblies, ask for Catalog 6101. Macwhyte Wire Rope Company, 2900 Fourteenth Avenue, Kenosha, Wisconsin.

MACWHYTE

252

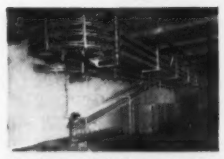
For more details circle NED-751 L1 on enclosed inquiry slip

ONLY WENDWAY

can do so many jobs *So Well!*

To carry your production from the initial processing stage right through to the shipping department . . . just press the control button on a Wendway Light Product Conveyor. Wendway delivers a steady flow of products or materials smoothly, quietly, wherever you need them. Up, down, around, through walls and back again. It's that versatile! See for yourself how Wendway can save you money in space, handling costs, convenience and time. Just fill in the coupon below.

Wendway Conveyor belting, constructed of special 17 wire and fabricated on specialized machines, is an exclusive development of Union Steel Products Co.



Wendway Spiral Conveyor cools raw products, packages or containers at ceiling height. Saves floor space.

3 Tier Wendway Package Conveyor carries a steady flow of packages to waiting trucks.

Single Tier Wendway Conveyor moves packages from bag loader through a series of stapling operations.

Sliced Cold Meats travel on Wendway stainless steel belting through labeling and on to wrapping machine.

Wendway carrying freshly packaged cheese to labeling machine.

Cartons and Light Packages move perfectly on Wendway's smooth, silent belting.

UNION STEEL PRODUCTS CO.

ALBION, MICHIGAN

Mail Today

Gentlemen: Please send additional information about Wendway for conveying _____

Name _____

Company _____

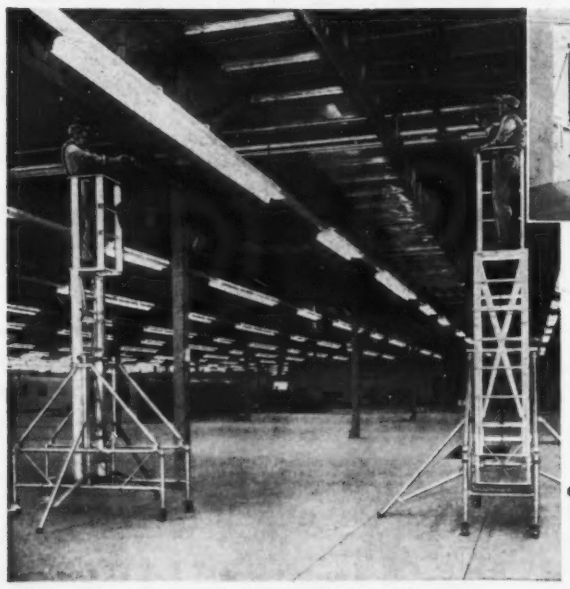
Address _____

City _____ Zone ____ State ____

☐ Please have a USP Conveyor engineer contact me at once.

For more details circle NED-752 L1 on enclosed inquiry slip

20% labor savings on overhead installations with TALLESCOPE... telescoping aluminum scaffold



Western Electric Company plant, Kansas City, Missouri.

In overhead work on heating and ventilating systems, six Tallescope aluminum scaffolds saved 20% on total installation time. Units fold down to pass through doorways and under low ceilings, saving repeated assembly and disassembly of conventional scaffolds. Western Electric Company plant, Kansas City, Missouri. On all overhead maintenance, Tallescope gets men up in the air fast; lets them finish the job fast! Extends instantly for reaching heights up to 31 feet. Lightweight and quickly assembled without tools or loose parts.

Write for TALLESCOPE *circular*

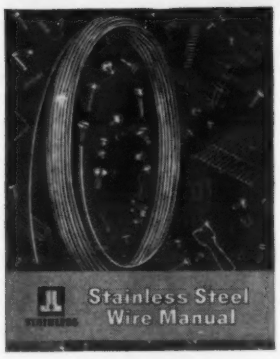
UP-RIGHT SCAFFOLDS

DEPT. 145, 1013 PARDEE, BERKELEY, CALIFORNIA

In Canada: Up-Right Scaffolds, Ltd., 120 Russett St., Oshawa, Ontario

For more details circle NED-748 L1 on enclosed inquiry slip

New Design Manual



Stainless Steel Wire

Here's a brand new, 20 page manual giving design data on J&L Stainless Steel wire. With it, the design engineer can easily select the best stainless for the requirements of his specific applications.

Here are just a few of the subjects covered:

- MECHANICAL PROPERTIES
- LABORATORY CORROSION DATA
- APPLICATIONS
- STANDARD GAUGES

Send today for your free copy
WRITE TO DEPT. 1575

Jones & Laughlin Steel Corporation
STAINLESS AND STRIP DIVISION
Box 4606, Detroit 34, Michigan

STAINLESS
SHEET · STRIP · BAR · WIRE

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DOLLAR for DOLLAR
Your Best Lift Buy!

54 MODELS BY CROWN

Power Propelled Power Lift

TO OVER 9 FEET

Various attachments give this lift 101 uses. Most versatile equipment you have in your plant.

$1970.00

Model H-57. Lifts loads up to half ton safely, efficiently. Operates in narrow aisles.

$2970.00

Model B-57. 1500 lb. capacity. Batteries and built-in charger. Lowest price power lift.

CROWN CONTROLS CO., INC.
NEDI AVENUE
NEW BREMEN, OHIO
MATERIAL HANDLING DIVISION

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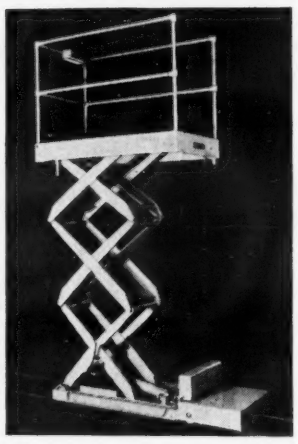
SOLUTION METERING PUMP
0-2 to 0-20 ml-per-minute ranges

Any application where small quantities of liquids must be precisely delivered can be served by this solution metering pump, offered in 0-2, 0-5, 0-10, or 0-20 ml-per-minute ranges. Typical uses include drug infusion studies, organic synthetic research, reaction rate studies, and pilot plant operations. Knob calibrated to 0.001 ml per minute sets liquid flow to within ±2 per cent of full range. Repeatability is better than ±0.5 per cent of capacity. Chemically inert internal components resist most corrosive fluids and can be steam sterilized. Mechanically actuated valves insure leak-free performance without high back pressure. ● **Beckman Instruments, Inc.,** Scientific & Process Instruments Div., 2500 Harbor Blvd., Fullerton, Calif.

▲ For more details circle **NED-756 L1** on enclosed inquiry slip ▲

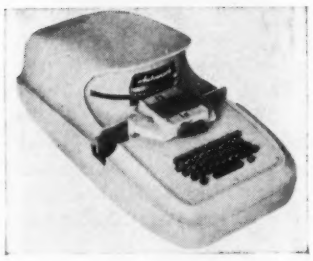
PERSONNEL LIFT
triple-scissor unit lifts 750 lb



Self-contained triple-scissor personnel lift with extended height of 8 ft facilitates order picking, parts storage, or tool and fixture selection at shelf heights to 14 ft. Push-button unit on handrail controls ascent, descent, and lateral travel. Model LH4 - 80S self - propelled lift has 750-lb capacity, is offered with 24 x 50 or 48 x 72-in. platform, and has collapsed height of 16 in. The 220/440 v 60-cycle three-phase motor receives power from Curly-Cord, reel or bus bar. ● **Southworth Machine Co.,** 30 Warren Ave., Portland 2, Maine.

▲ For more details circle **NED-757 L1** on enclosed inquiry slip ▲

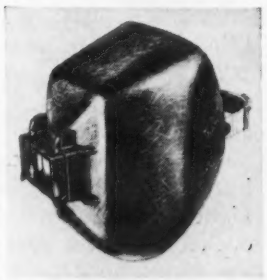
EMBOSSING MACHINE
makes address and other plates



Automatic line space, automatic carriage return, back space, rapid carriage traverse, and quiet operation are incorporated in the Automark embossing machine. It operates electrically from a keyboard at speeds over 100 characters per minute, embossing all styles of address plates, and courtesy and credit cards with characters from 3/32 to 3/16 in. high. One size is furnished with the machine which is easily converted to punched card or punched tape control, yet may still be manually operated from the keyboard. With this card or tape control, automatic plate loading, feeding, and unloading are included. ● **Automark Business Machines Co.,** 430 Industrial Dr., Maryland Heights, St. Louis, Mo.

▲ For more details circle **NED-758 L1** on enclosed inquiry slip ▲

WELDING HELMETS
glass fiber, wide vision types



Added to company's welding helmet line are glass fiber models in the curved-chin and straight bib types. Both have the 5¼ x 4½-in. vision lens cell. Also produced is a new narrow front shell with flanges at top, bottom and sides. Both this unit and the straight bib type are available with stationary or lift front plate holder. All glass fiber helmets now have a new friction joint with nylon pressure plates and an improved tension spring. Helmet can be preset to any one of four working positions. ● **American Optical Co.,** 1492 Mechanic St., Southbridge, Mass.

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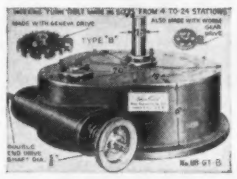
EISLER

FOR 39 YEARS

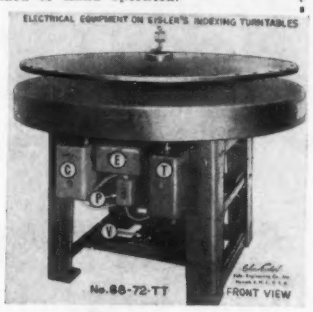
We supply any part or complete equipment . . . Special turntables made to order

INDEXING TURNTABLES
MORE THAN 100 DIFFERENT TYPES

- FOR WELDING • BRAZING • SOLDERING • SPRAYING
- GLASS INSULATOR MELTING AND GLASS GLAZING with rotating stations and indexing with barrel cam or Geneva gear action.
- For work transferring, tilting positions. Motorized or hand operated.



Eisler Indexing Turntables are completely electrically controlled



AND CAMS MADE TO YOUR SPECS!

"Ask for catalog 88-57"

EISLER ENGINEERING CO., INC.
740 SO. 13th ST., NEWARK 3, N. J.
Charles Eisler, Jr., President

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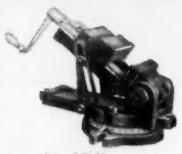
Write Now for This

FREE CATALOG #208

on Work Holding Tools For Production, Tooling, Maintenance

Drill press vises, angle vises, swivel machine vises, rotary tables, lathe milling attachments, production vises, heavy duty angle vises and adjustable angle plates are illustrated and fully described in this new PALMGREN Catalog #208. It shows the *ONLY* complete line of work holding devices available anywhere. Designed for production, tooling and maintenance work, it shows over 70 different models and types, with jaw sizes from 1½" to 8". Ask for your FREE copy of this catalog today, it shows the complete line and prices.



No. 2B Heavy duty 4" Angle Vise

No. 84, 8" Rotary Table

137

PALMGREN PRODUCTS
8378 SOUTH CHICAGO AVE. • CHICAGO 17, ILLINOIS

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HARGRAVE
Industrial Quality Tools

"C" Clamps 1" to 18" Openings 1" to 16" Depths

Bar Clamps
2' to 12' Opening

Spring Clamps—3 Sizes
Clamping Pressure 4 lbs. to 80 lbs.

FREE GENERAL CATALOG
Showing the complete line of HARGRAVE Clamps, Chisels, Punches, Masonry Drills, Gasket Cutters.

HARGRAVE PRO-TECTO-HED CHISELS & PUNCHES
Prevents Mushrooming

for Greater Safety

for Longer Life

HARGRAVE
Masonry Drills for Hand, Power Hammers, Electric Drills 3/16" to 6" Dia.

THE CINCINNATI TOOL CO.
1995 Waverly Ave., Cincinnati 12, O.

STOCKED BY YOUR LOCAL SUPPLIER

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HOW MUCH WILL MECHANIZED FLOOR CARE SAVE YOU?

Figure it out by comparing the average time required for a man to mop your floors vs. *cleaning* them with a Clarke-A-matic Floor Maintainer:

FLOOR AREA IN SQ. FT.	ONE MAN WITH MOP	ONE MAN WITH CLARKE-A-MATIC	HOURS SAVED
20,000	20 hrs.	1½ hrs.	18½ hrs.
50,000	50 hrs.	4 hrs.	46 hrs.
100,000	100 hrs.	8 hrs.	92 hrs.

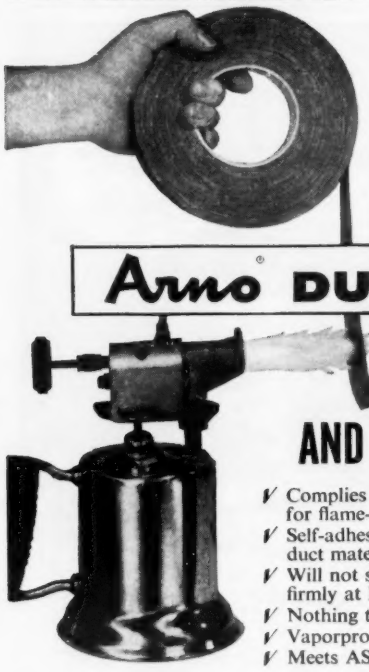
Translate this into dollar savings by multiplying your hourly labor cost by the hours saved with a Clarke-A-matic.

For example, if you have 50,000 sq. ft., it takes 50 hours with a mop, only fours with a Clarke-A-matic. You save 46 hours. Based on the national average labor rate of $1.50 per hour, *you save $69 every time you Clarke-clean your floors.*

And, Clarke-A-matic gets floors *clean*! It scrubs, picks up dirt and squeegee-dries, all in one self-propelled operation.

Ask to have your Clarke distributor tell you more about Clarke mechanized floor care. Write us today.

CLARKE FLOOR MACHINE CO.
DIVISION OF STUDEBAKER-PACKARD CORPORATION
2211 E. Clay Avenue, Muskegon, Michigan
For more details circle NED-763 L1 on enclosed inquiry slip



FLAME-RESISTANT

Arno® DUCTAPE TRADEMARK

FOR DUCTS AND INSULATION

- ✓ Complies with all building codes for flame-resistant duct tapes.
- ✓ Self-adhesive . . . sticks to any duct material or insulation.
- ✓ Will not support flame . . . holds firmly at high temperatures.
- ✓ Nothing to mix . . . saves labor.
- ✓ Vaporproof . . . waterproof.
- ✓ Meets ASTM standards.

Manufacturers Agents Wanted for Some Selected Areas

Write for FREE test sample!

ARNO ADHESIVE TAPES, INC.
Dr. Scholl's Adhesive Tape Division
5225 Ohio St., Michigan City, Ind.
For more details circle NED-764 L1 on enclosed inquiry slip

McGILL® SEALED CAGEROL® BEARINGS

Integral seals and caged rollers extend bearing life

Sealed CAGEROL bearing life is extended through lubricant retention and protection from contamination. Caged and crowned rollers increase bearing life under misalignment and higher speeds. McGill construction features exclusive tapered retainer pockets to eliminate corner wear. It provides balanced roller guidance, crowned rollers for equal distribution of load and protective black oxide retainer finish. SMR series CAGEROL bearings extend bearing life up to 10 times more than ordinary end guided needle bearings.

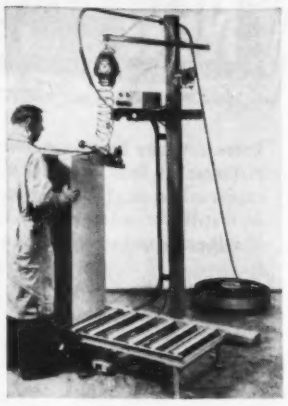
Sizes from ⅝", interchangeable with standard heavy duty needle roller bearings. Write for Bearing Handbook No. H-54-C.

CONSULT McGILL EARLY IN YOUR PRODUCT R and D — specialized engineering saves time, improves design

engineered electrical products — McGILL® precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST., VALPARAISO, IND.
For more details circle NED-765 L1 on enclosed inquiry slip

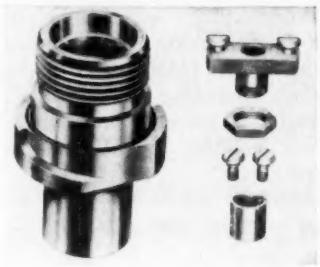
HIGH SPEED STRAPPING UNIT
one man can strap large containers



Flexible, high-speed Model 480 Strap-Around unit enables one man to strap containers of almost any height and width. It is designed for on-the-spot alteration to almost any production line requirement and handles all sizes of flat strapping from ⅜ x 0.015 in. to ¾ x 0.023 in. as well as many sizes of oval strapping, plus 100 per cent Rayon strapping. Reel-fed strap is inserted into a chute and fed around the container by electric motor to the exact length desired. Strap is then pneumatically tensioned, sealed, and cut. • **A. J. Gerrard & Co.**, 400 E. Touhy Ave., Des Plaines, Ill.

For more details circle NED-766 L1 on enclosed inquiry slip

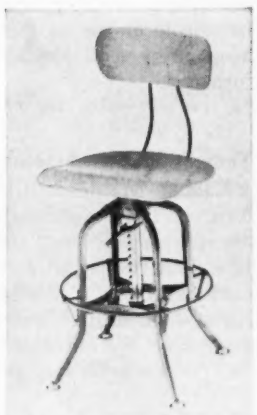
DRILL BUSHING TIP
speeds drill mounting on jigs



Fast, accurate method for portable or stationary mounting of drilling, tapping, and other self-contained machining units on jig or fixture is provided by Taper-Lok drill bushing tips and accessories. Threaded end of bushing tip screws into the nose piece of the drilling unit. Flanges on the tip fit under the shoulders of lockscrews or lock strips, holding the drill unit in firm alignment and absorbing both thrust and torque stresses. A 30-degree turn locks or unlocks the unit. Tips are finished to ASA specs, or are made to customer's dimensions. Chips work back into nose piece and out the slots in the sides. • **American Drill Bushing Co.**, 5107 Pacific Blvd., Los Angeles 58, Calif.

For more details circle NED-767 L1 on enclosed inquiry slip

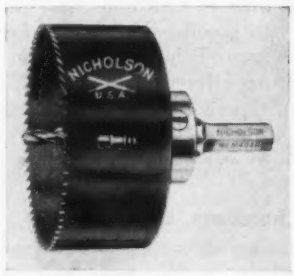
POSTURE CHAIRS
adjustable 7½ in. upward



Quick Height adustable posture chairs are offered in seven basic heights, each of which is instantly adjustable 7½ in. upward without tools. On-the-spot change from swivel to non-swivel seat is possible. Posture seat is designed to distribute user's weight over the hips and thighs without restricting circulation under the knees. Backrest is adjustable to suit user's waist height. Series 5306 comprises basic heights of 17, 22, and 27 in.; Series 5206, heights of 22 and 25 in.; and Series 5606, heights of 16 and 19 in. Footrest ring and ball and socket swivel feet are standard on Series 5206 chairs. • **Toledo Metal Furniture Co.**, 1250 Hastings St., Toledo 7, Ohio.

For more details circle NED-768 L1 on enclosed inquiry slip

HOLE SAWS
cut up to 6-in. holes 1⅛ in. deep



Clean holes from 9/16 to 6-in. diameter and up to 1⅛ in. deep can be cut in steel, cast iron, aluminum, brass and bronze, plastics, iron or steel pipe, and wood with line of pilot drill-type hole saws. Cutting edge with six teeth per inch is made of high speed steel and welded to an alloy steel back which is, in turn, welded to the steel body. Screwed into body is a mandrel with ¼-in. high speed pilot drill. A 12-in. extension is available. Saws are also available with Morse Taper mandrel adaptors. • **Nicholson File Co.**, Providence 1 R. I.

For more details circle NED-769 L1 on enclosed inquiry slip

THE VER-T-RACK
THE ACME OF VERSATILITY

- ELIMINATES MATERIAL DAMAGE
- REDUCES WORKER FATIGUE
- MAXIMUM EFFICIENCY AT MINIMUM COST

HEIGHT—65½" LENGTH — 35"
WIDTH— 24" CAPACITY 2000 lbs.

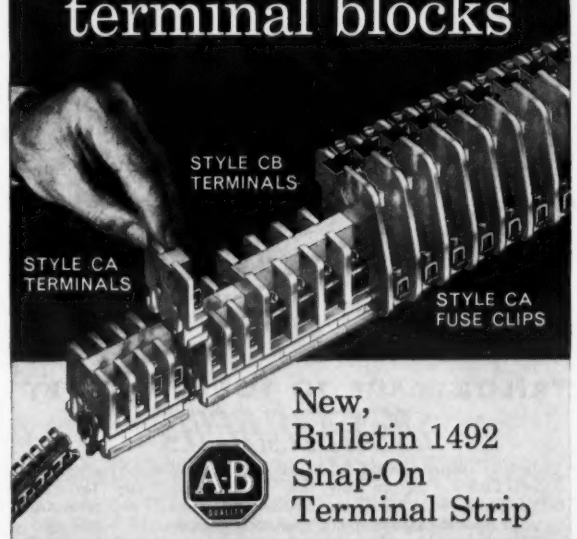
- EXPEDITES MATERIALS UP TO 60% FASTER
- SAVES MAN HOURS
- SAVES FLOOR SPACE
- GREATER SAFETY FACTOR

Equipped with 6" roller bearing steel wheel casters

VER-T-RACK can be handled with lift truck.
Trays are adjustable on VER-T-RACK
PRICE — $49.50 Varied Accessories Extra
Slightly higher west of the Rockies Write today for descriptive literature

THE Vince BASNIK COMPANY
MATERIAL HANDLING DIVISION
• 2020 CENTER STREET • CLEVELAND 13, OHIO
For more details circle NED-770 L1 on enclosed inquiry slip

Save time and space with these unique A-B terminal blocks



New, Bulletin 1492 Snap-On Terminal Strip

You can have up to 29 terminals per foot

The unusual design of these completely new Allen-Bradley terminal blocks is a real space-saver. Without sacrificing "safety," you can now make maximum use of the space you have available for terminals.

On-the-job assembly is simple, too—just press the nylon block onto the metal mounting strip, and it automatically locks securely in place. You can lift out and replace individual blocks just as easily. Holes in the mounting strip under each terminal block permit you to decide upon the location of the mounting screws—a great convenience.

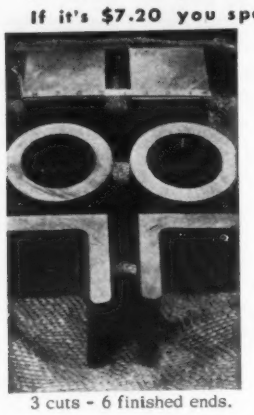
Mounting strips, furnished in six-foot lengths with 175 Style CA or 115 Style CB blocks, factory assembled in place, can be "snapped off"—without tools—at any desired length. All components are also available as individual units in standard package quantities. Please send for full details, today.

Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
QUALITY MOTOR CONTROL
For more details circle NED-771 L1 on enclosed inquiry slip

WHAT'S YOUR SHOP COST PER HOUR FOR WAGES AND OVERHEAD?

If it's $6.00 you spend 10 cents per minute.
If it's $7.20 you spend 12 cents per minute.



3 cuts - 6 finished ends.

Cuts like these are made in SECONDS!

$6.00 per hour = 1/6 cents per second.

$7.20 per hour = 1/5 cents per second.

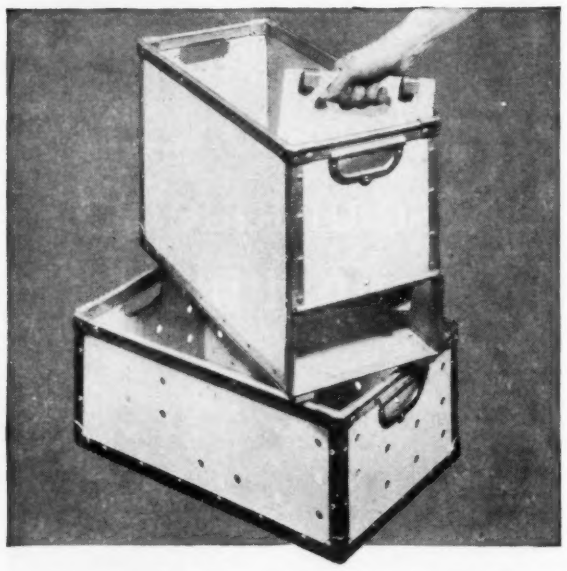
WHEN YOU CAN CUT AND FINISH LIKE THIS (Total time 58 seconds) THAT'S FAST! WHY DON'T YOU INVESTIGATE TO SEE WHAT YOU ARE MISSING.

Write and ask about "Cut-Machining."

WALLACE SUPPLIES MFG. COMPANY
3512 N. Ravenswood Ave., Chicago 13, Illinois

Or **Check Item** 772 on card.

▲ For more details circle NED-772 L1 on enclosed inquiry slip ▲



1 BOX or 1,000

TAILOR-MADE TO YOUR SPECS BY TOTELINE

You can handle, ship or store just about anything with Fabri-Totes . . . a new line of custom-made Toteline boxes from Molded Fiber Glass Tray Co. They're made to your specifications in the quantity you want—1 or 1,000.

These durable, economical containers—available with solid or perforated panels of molded fiber glass, aluminum or vulcanized fiber, riveted together with galvanized steel hardware—are designed to meet your specific materials handling requirements. Best of all, no minimum order is necessary.

This Fabri-Tote Repack Box is ideal for use in warehouses, stores or shops where covered storage containers are required. Its locking hasp assures protection for contents in over-the-road shipments. The Repack Box will nest when empty and stack when loaded.

Fabri-Tote Linen Trucks speed housekeeping and reduce maintenance and replacement costs. The Linen Truck comes equipped with four casters, two of which swivel for easy handling of heavy or bulky loads. Like all Fabri-Totes, the Linen Truck can be fabricated to meet your specifications and needs.

The Fabri-Tote General Purpose Box is a versatile, money-saving piece of equipment used in machine shops, stores, parts departments or wherever a rugged material handling container is needed.

Fabri-Totes can be equipped with hardwood runners, lids, hand holds. They can be designed either to nest or stack.

by TOTELINE

MOLDED FIBER GLASS TRAY CO., LINESVILLE, PA.
A DIVISION OF THE MOLDED FIBER GLASS BODY CO.

Please send me further information on Toteline Fabri-Totes

Name_____ Title_____
Company_____
Address_____
MF-18-NED

▲ For more details circle NED-773 L1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

These catalogs have been selected on the basis of the completeness of their data and their value to the needs of our reader-audience. They are sent to you by the manufacturer or distributor when you circle the proper item number on a self-mailing inquiry slip in the issue. When a price is mentioned or a letter-head request is indicated, you should write to the company.

Heat Processing Burners

FREE Selas Corp. of America—"Complete premix" radiant type gas burners for heat processing are subject of 18-page Bulletin DB-2. Design, construction, and operation are described. Duradiant burners are cup-shaped, ceramic units which beam radiant heat to workpieces intimately without flame impingement.

▲ For more details circle NED-774 L1 on enclosed inquiry slip ▲

Miniature & Precision Instrument Bearings

FREE Miniature Precision Bearings, Inc.—64-page ring-bound Catalog 6 is one of the most complete compilations of engineering information on miniature and precision instrument bearings. Information covers several new types of bearings, including M Series high speed bearings and end-cap and integral shaft units. Also described are company facilities, the MPB numbering system, and applications.

▲ For more details circle NED-775 L1 on enclosed inquiry slip ▲

Wire Cloth Catalog

FREE Unique Wire Weaving Co.—Revised 16-page catalog describes plain, twill, Dutch, Micronic, and special weaves of wire cloth. Specs and characteristics of coarse to extra-fine meshes are tabulated. Wire cloth can be produced in many metals ranging from ferrous and nonferrous through alloy and precious metal types.

▲ For more details circle NED-776 L1 on enclosed inquiry slip ▲

Dynamic & Static Balancers

FREE Gisholt Machine Co.—Revised 20-page Catalog 1165-C provides specifications and other data on eight Type S dynamic (two plane) and static (single plane) balancing machines. These machines will balance parts weighing from 1 to 300 lb to within 0.000025 in. displacement at the supporting bearings. Special accessories available on the Type S machine are illustrated.

▲ For more details circle NED-777 L1 on enclosed inquiry slip ▲

Thermocouple Assemblies

FREE Minneapolis-Honeywell Regulator Co., Industrial Div.—Specifications and prices for a line of general-purpose and special-use thermocouple assemblies and components are furnished in revised 40-page Catalog G100-1. Straight, angle, high-speed small OD, spring-loaded high-speed, and new high temperature assemblies are covered.

▲ For more details circle NED-778 L1 on enclosed inquiry slip ▲

Direct-Fired Gas Heaters

FREE Reznor Mfg. Co.—Second in a series of handbooks on applications of direct-fired gas heating equipment, 8-page Heating Handbook GN-200 discusses general space heating, special heating for loading door areas and entries, makeup air tempering, and combination heating-cooling systems.

▲ For more details circle NED-779 L1 on enclosed inquiry slip ▲

Multiple Electrical Connectors

FREE AMP Inc.—Three lines of multiple electrical and electronic connectors, with specific data sheets for each line are described in 6-page Folder 467. Appliance and automotive types are offered with 1 to 20-circuit configurations. Third type is used in computers, business machines, motors, transformers, and vendors.

▲ For more details circle NED-780 L1 on enclosed inquiry slip ▲

Temperature-Humidity Chambers & Ovens

FREE Electric Hotpack Co.—Fourteen models of temperature-humidity chambers, ovens and walk-in rooms, and seven Hi-Lo temperature test chambers are covered in 12-page bulletin with full specifications and prices. Standard chambers afford up to 31 cu ft of work space and temperature range from 1 to 99° C with 20 to 98 per cent RH. Walk-in environmental rooms have areas up to 10 x 6 ft, 7 ft high.

▲ For more details circle NED-781 L1 on enclosed inquiry slip ▲

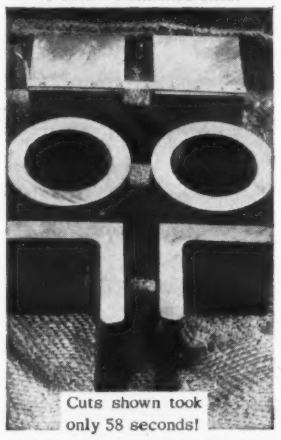
ARE YOU

WORKING OVERTIME TO KEEP YOUR PRODUCTION LINE FULL?

ARE YOU running more than one HACK OR BAND SAW?

Then you cannot afford to remain in the dark.

3 cuts - 6 finished ends.



Cuts shown took only 58 seconds!

with WALLACE "CUT-MACHINING."

YOU CAN

CHANGE MINUTES into SECONDS!

Write! Learn how it's done.

WALLACE SUPPLIES MFG. CO.
3512 N. Ravenswood Ave.
Chicago 13, Illinois

Or **Check Item** 782 on card.

▲ For more details circle NED-782 L1 on enclosed inquiry slip ▲

NO BOLTS, NO SCREWS, NO DRILLING

with NEW Permacel Junction Box Mount epoxy adhesive . . . the fast, easy way to attach junction boxes to any surface.

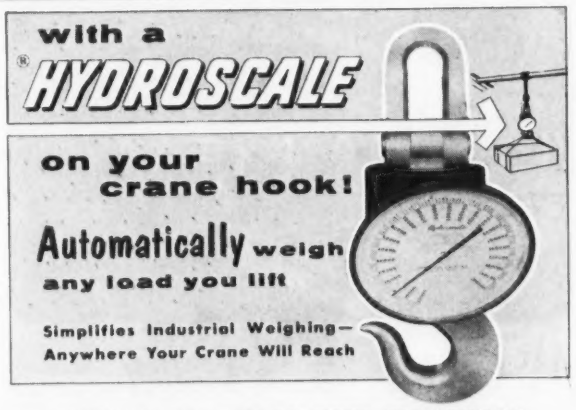
* Guaranteed for a period of one year from date of purchase not to harden in the cup until mixed or until divider section is removed.

PERMACEL® NEW BRUNSWICK NEW JERSEY

Tapes • Electrical Insulating Materials • Adhesives

▲ For more details circle NED-783 L1 on enclosed inquiry slip ▲

with a HYDROSCALE



on your crane hook!

Automatically weigh any load you lift

Simplifies Industrial Weighing—Anywhere Your Crane Will Reach

ALL WEIGHING IS DONE ON YOUR CRANE HOOK
ENGINEERED AND BUILT FOR LONG SERVICE-LIFE
THERE ARE 110 MODELS IN THE COMPLETE LINE
TARE ADJUSTING KNOBS FOR NET LOAD READING
EASY-TO-READ DIALS AVAILABLE IN 3 SIZES

HYDROSCALES *guaranteed*

They are guaranteed to be free of defects in workmanship and materials, and to be accurate to ½ of 1% of the maximum dial capacity

HERE ARE SOME TYPICAL WEIGHING APPLICATIONS

Just a few of the many applications include — loading, unloading, check weighing, batching, foundry charging, and protecting your equipment from overloading.

HYDROWAY SCALES, INC.
31288 Stephenson Highway, Royal Oak, Michigan
"The world's largest producer of crane scales"

▲ For more details circle NED-784 L1 on enclosed inquiry slip ▲

You can depend on

Tempilstik°

temperature indicating crayons

Each batch of Tempilstiks° is certified for melting point by our laboratory — and independently tested for accuracy by a distinguished firm of metallurgical chemists.

A PRODUCT OF AMERICAN INGENUITY

Tempilstiks° have earned an enviable acceptance as one of the standard methods of determining temperatures—in both science and industry. This gratifying position is the result of many years of accumulated know-how and unremitting research and development.

Available in 100 systematically spaced temperature ratings—from 100° to 2500° F $2.00 each.

Most leading industrial supply houses carry Tempilstiks°. If yours is an exception, write to:

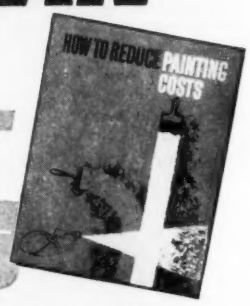
ADVERTISING DIVISION

Tempil° CORPORATION

132 West 22nd St., New York 11, N. Y.

For more details circle NED-785 L1 on enclosed inquiry slip

YOU CAN CUT PAINT COSTS



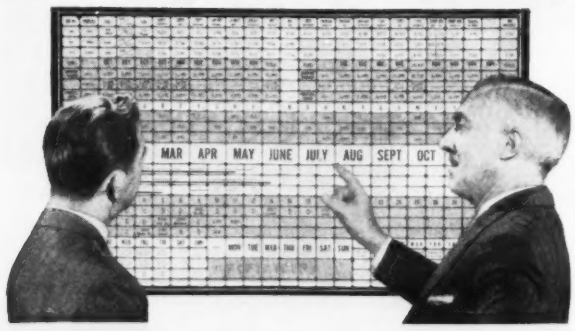
THIS FREE BOOKLET tells how you can make important savings on industrial, institutional or commercial paint jobs. It contains helpful hints on what to look for when you purchase paint; how to measure the *true* cost of paint "on the wall"; why it pays to test the square foot coverage and "hiding power" of a paint before you buy in quantity; how to arrange for a free "Engineered Color" Service to make the most of lighting conditions. Send for your free copy now. Write Barreled Sunlight Paint Company, 130K Georgia Avenue, Providence 5, R. I.

Barreled Sunlight Paints ENGINEERED

For A Better Looking, Longer Lasting Paint Job At Lower Cost

For more details circle NED-786 L1 on enclosed inquiry slip

You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

- ★ Gives Graphic Picture of Your Operations in Color.
- ★ Facts at a Glance - Saves Time and Prevents Errors.
- ★ A Simple, Flexible Tool-Easily Adapted to Your Needs.
- ★ Easy to Use. Type or Write on Cards, Snap on Board.
- ★ Ideal for Production, Scheduling, Sales, Inventory, Etc.
- ★ Compact, Attractive. Made of Metal. 500,000 in Use.

Complete Price $49.50 Including Cards

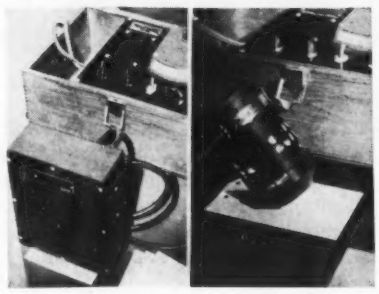
FREE 24-Page ILLUSTRATED BOOKLET N-100 Without Obligation

GRAPHIC SYSTEMS, Yanceyville, North Carolina

For more details circle NED-787 L1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

SPRAY BOOTH COATING
strips easily, inhibits rust



Ready for use without dilution, Paint Guard paint spray booth coating is an odorless, nontoxic, noninflammable, and nontacky paste easily applied by brush or spray. It forms a protective booth coating of high light reflectance and low specular bloss. When paint accumulations become heavy, coating is quickly removed by scraping, pressure water spray, or steam cleaning. Coating is also rust inhibiting and does not pick up on workers' shoes or truck wheels. In photo, coated samples are being tested for mirror brightness and whiteness values. • **Kelite Corp.**, 81 Industrial Rd., Berkeley Heights, N. J.

For more details circle NED-788 L1 on enclosed inquiry slip

CONTACT ADHESIVES
bonds laminates, wood, aluminum

Formulated for sheer strength, good aging properties, and high heat resistance, Dyna Grip contact adhesives exhibit good spot grab and hold out. They are applied by spray, roller, or notched trowel for bonding all plastic laminates, wood, aluminum, steel, linoleum, and other materials. Three types have tack ranges of 10 to 30 min, 12 to 20 min cold spray or 8 to 15 min hot spray, and 18 to 40 min. Service ranges cover −65 to 200° F. All are natural in color and the hot and cold spray type is also available in red and black. Coverage is up to 200 sq ft per gallon. • **Perry-Austen Mfg. Co.**, 250 Parkinson Ave., Staten Island 5, N. Y.

For more details circle NED-789 L1 on enclosed inquiry slip

LIQUID PARTS CLEANER
removes carbon, sludge, paint, tar

Carbon, sludge, varnish, paint, tar, and other encrustations are stripped from metal parts by Strip-All concentrated liquid cleaner without harming the metal itself. The noninflammable, nonexplosive cleaner has a vapor barrier which prevents odor and evaporation of active ingredients. It is offered in 1-qt, 1½-gal, and 6-gal size kits which include an immersion basket. The basket and parts can be rinsed off with water. Quart, gallon, and 5-gal containers of cleaner are also available. • **Stewart-Hall Chemical Corp.**, 222 Washington St., Mt. Vernon, N. Y.

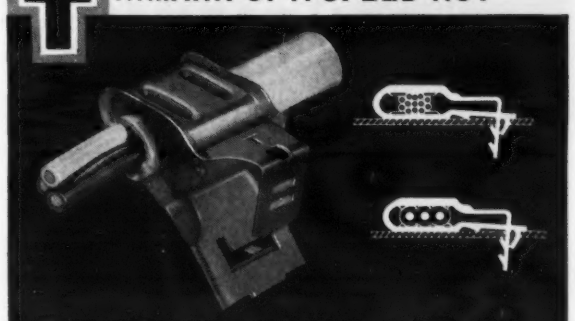
For more details circle NED-790 L1 on enclosed inquiry slip

LAPPING COMPOUND
new additive extends life

Trulap lapping compound has been improved by addition of Granulaide, a new surfactant that evenly disperses diamond dust particles throughout the compound and maintains a high degree of activity among the surface particles. This keeps compound from drying or draining away, yet eases the cleaning phases of the lapping operation. Diamond particles are uniform, block shapes for even cutting-polishing action. Available in micron range of 0-½ to 200, improved Trulap is color coded to prevent misapplication of different diamond abrasive sizes and concentrations. • **Wheel Trueing Tool Co.**, 3200 W. Davison Ave., Detroit 38, Mich.

For more details circle NED-791 L1 on enclosed inquiry slip

T ...MARK OF A SPEED NUT®



Securely anchors wires, cables, tubing...Tinnerman SPEED CLIP® relieves strain, simplifies assembly!

• One-piece, spring steel, vibration-proof • Double latch permits pre-assembly to wire or harness • Triple rib retainers grip tightly on round or rectangular cords from .175" round to .306" x .515" rectangle • Easily withstands 35-pound pull test requirements • Easy to install and remove from front side.

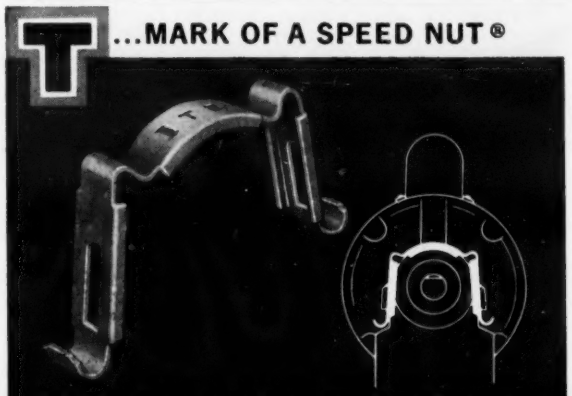
Write for free descriptive literature LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.

BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

For more details circle NED-792 L1 on enclosed inquiry slip

T ...MARK OF A SPEED NUT®



Eliminates 4-piece motor mount clamps...one-piece SPEED CLIP® snaps into place, cuts costs!

• High quality spring steel • Snap into place with simple tool • Designed to hold tight under severest vibration and high starting torque in any mounting position • Fit most popular fractional-horsepower motor sizes.

Write for free descriptive literature LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.

BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

For more details circle NED-793 L1 on enclosed inquiry slip

T ...MARK OF A SPEED NUT®

Save up to 50% or more! Tubular Speed Clips® take positive bite to hold assemblies tight!

• One-piece spring steel • Snap into stud-receiving position from front side • Perfect for attaching name plates, grille work, trim, knobs, insulation, dust shields • Use with unthreaded studs or rivets • Virtually "nails" panels together where only one side is accessible • Permanent lock or removable types.

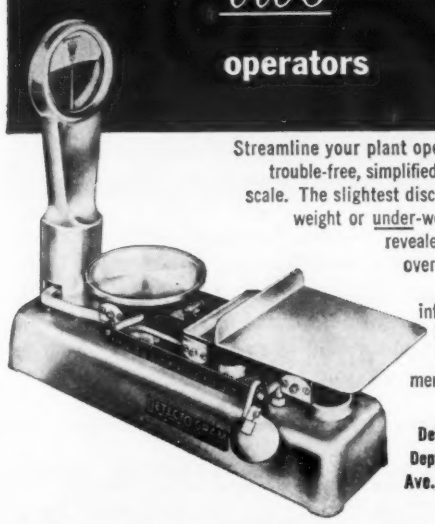
Write for free descriptive literature LOOK FOR THE TINNERMAN "T"!

TINNERMAN PRODUCTS, INC.

BOX 6688 • DEPARTMENT 12 • CLEVELAND 1, OHIO

For more details circle NED-794 L1 on enclosed inquiry slip

One DETECTO Speed Scale does the work of two operators

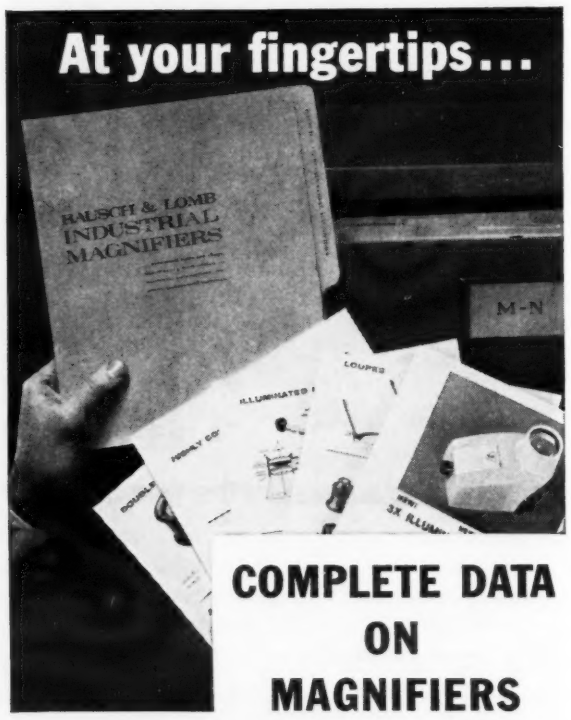


Streamline your plant operation with this trouble-free, simplified, highly sensitive scale. The slightest discrepancy of over-weight or under-weight is instantly revealed by DETECTO'S over-under indicator. Write for information on full line of industrial weighing equipment from 1/100 oz. to 100 ton:

Detecto Scales, Inc. Dept. D-1, 540 Park Ave., Brooklyn 5, N.Y.

For more details circle NED-797 L1 on enclosed inquiry slip

At your fingertips...



COMPLETE DATA ON MAGNIFIERS FROM BAUSCH & LOMB

The new Bausch & Lomb Industrial Magnifier File gives you complete information on every type of magnifier. You'll find data on Vernier Magnifiers, pocket magnifiers, measuring magnifiers, watchmakers loupes, illuminated magnifiers, double lens magnifiers, Hastings triplet and Coddington magnifiers as well as many others. Also, basic facts about magnifiers and how to use them most effectively are included. Now you can have full data on these valuable tools in one convenient source... and there's no finer source than B&L for this equipment. Fill out the coupon below and receive your *free* copy of the new Bausch & Lomb READER AND MAGNIFIER FILE.

BAUSCH & LOMB SINCE 1853

BAUSCH & LOMB INCORPORATED
994 Lomb Park, Rochester 2, New York

Please send me my free copy of the Bausch & Lomb INDUSTRIAL MAGNIFIER FILE

NAME _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE ____

For more details circle NED-798 L1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Drill Pointers & Drill Point Checkers

FREE Oliver Instrument Co.—Technical information on Oliver Model 600 drill pointer for wet and dry grinding, Model 21 pointer for small drills, and a drill point thinner for correcting structural faults in drills are furnished in 12-page bulletin entitled "Oliver of Adrian." Model 600 will handle right hand spiral drill from ½ to 3-in. diameter, producing 80-160 degree points.

For more details circle NED-799 L1 on enclosed inquiry slip

Glue Gun Systems

FREE John P. Fox Co.—Over 700 standard glue gun combinations covered in 6-page Form GG 761-50 will meet every normal industrial requirement for application of adhesives. Included are manual and machine-mounted units for ribbon coating, stripping and spotting flat surfaces, and for hole, groove, and corner gluing. Each combination incorporates the FF method of enclosed glue movement.

For more details circle NED-800 L1 on enclosed inquiry slip

Mounted Wheels & Points

FREE Simonds-Worden-White Co., Dayton Safety Grinding Wheel Div.—Mounted wheels and points designed for portable and stationary grinders are dimensionally illustrated in 6-page Bulletin 660. They are available in standard A, B, and W shapes and sizes, in four different bonds and grains from coarse to very fine. Resinoid bonded wheels and points for snagging and Vitrified bonded units are also included.

For more details circle NED-801 L1 on enclosed inquiry slip

Performance Incentives

More than 1400 nationally-advertised products that can be used as awards in incentive programs are listed in 102-page, four-color Prize Award Book. It includes an 8-page "Pic-A-Trip" insert which lists 41 different holiday package tours which range from a week-end to 3 weeks in duration. Company offers tailor-made incentive programs to suit any client. Available by writing on company letterhead to **Performance Incentives Corp.**, 100 Broadway, East Paterson, N. J.

For more details circle NED-802 L1 on enclosed inquiry slip

Spring Products

FREE Associated Spring Corp.—16-page brochure is a "Guide to Lower Assembled Costs for Products Containing Springs." It covers custom packaging of various springs to eliminate deformation and facilitate production line dispensing, plus new techniques and instrumentation for assuring quality. A third section describes procurement of various components normally associated with springs.

For more details circle NED-803 L1 on enclosed inquiry slip

Armored Cable Fittings

FREE Thomas & Betts Co.—List of fittings and accessories for Interlocked Armored Cable provided in 4-page Bulletin F11-135 includes a vaporproof fitting for continuous sheathed armored cable. Connectors accommodate from ⅝ to 4-in. diameter cable of watertight and nonwatertight design.

For more details circle NED-804 L1 on enclosed inquiry slip

Adhesives, Sealants, Coatings

FREE Magichemical Co.—Automotive, marine and boat building, military, and aerospace applications of company's coatings, sealants, adhesive, and chemical products are presented in 8-page illustrated catalog. Properties are listed for over 80 products. Numerical listing points up special industrial uses.

For more details circle NED-805 L1 on enclosed inquiry slip

Flexible Connector for Tubes

FREE Wiggins Oil Tool Co.—Wig-O-Flex flexible connector for rigid tubes can be installed without tools. It can be used with rigid lines carrying fuel, oil, air, or hydraulic fluids. Complete data are provided in revised 8-page Catalog GC-6.

For more details circle NED-806 L1 on enclosed inquiry slip

Controlling Surface Roughness

FREE Micrometrical Mfg. Co.—Standard line of Profilometer instrumentation for measurement and control of surface roughness is reviewed in 12-page general Catalog 161. Measuring in microinches, instruments are for gaging roughness on inside and outside diameters, gear teeth, flats, tapers, internal grooves, and ¼ to 30-in. deep holes.

For more details circle NED-807 L1 on enclosed inquiry slip

CUT PRODUCTION COSTS!
MARK NAME PLATES 5 TIMES FASTER

MODEL EMT-2
ELECTRIC TAG TYPEWRITER
A touch of the finger delivers up to 2 tons pressure for deep, legible impressions in metal or plastic tags.

—WITH— Automark® ELECTRIC TAG MARKING MACHINES

MODEL SRST-2 HI-SPEED TAG MARKING MACHINE
Automatically marks BOTH constant and serial numbers at any desired speed up to 8,000 tags per hour!
MANUFACTURER'S AGENTS— Some Territory Still Available
Send Now for Bulletin

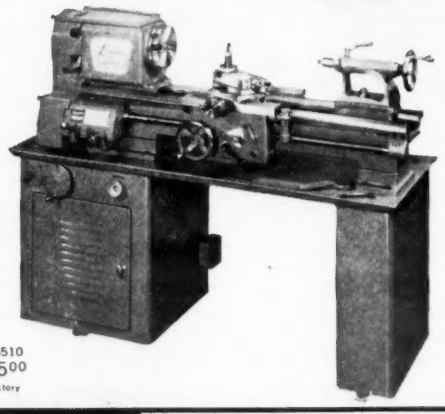
DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER Dept. QD ST. LOUIS 10, MO.

For more details circle NED-808 L1 on enclosed inquiry slip

Logan 14" LATHES

Rugged Logan lathes provide many extra features. Heavy headstock construction features large oversize spindles and ball bearings. Lathes give extra years of life (because of the special alloy bed and extra wide "Ductile Iron" change gears). Lathes also feature ball bearing variable speed drive of 40-1400 rpm and extra heavy construction throughout. Logan 14" lathes give you even more. Our literature will show you how much more. Write today for more information.

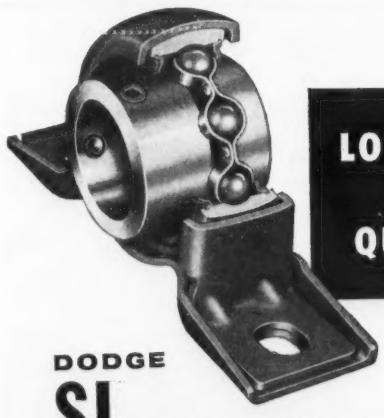
rugged



Model 6510
$1,775.00
F.O.B. Factory

Logan
LOGAN ENGINEERING CO., DEPT. Q-1161
4901 W. Lawrence Ave., Chicago 30, Ill.

For more details circle NED-809 L1 on enclosed inquiry slip



LOW COST! HIGH QUALITY!

DODGE SL BALL BEARING PILLOW BLOCK

A serviceable bearing for small shafts and general light machinery applications. Formed steel outer housing combines pleasing appearance with *strength* for all moderate service. Compact, fully self-aligning, effectively sealed to exclude dust and dirt, factory lubricated for life—and sealed both on and off the shaft. Flange units also. From Distributors' stocks in shaft sizes from ¾" to 1¼". Write for literature.

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE of Mishawaka, Ind.

For more details circle NED-810 L1 on enclosed inquiry slip

DYNAPAR* Digital
Rotopulsers measure any motion from 0 to 2400 counts per revolution

These compact, rugged, rotary sensing devices convert mechanical motion into electrical pulses for direct visual read-out of measurements and automation control. Rotopulsers provide up to 2400 counts per rotation at rates up to a maximum of 40,000 counts per second.

Dynapar Digital Rotopulsers can be direct-connected to rotating shafts for measuring rpm, belt speed, motor slip, linear or angular position — "hand-held" devices with a digital tachometer for indicating shaft speed — or they can be furnished with special measuring wheels to provide up to 100 counts per inch of linear travel. Rotopulsers can be used with many types of digital read-out and control devices.

Call your Louis Allis District Office, or write to The Louis Allis Co., 436 E. Stewart Street, Milwaukee 1, Wisconsin. Ask for Bulletin 200A.

LOUIS ALLIS

*Dynapar Corporation is the electronic subsidiary of The Louis Allis Co.

For more details circle NED-811 L1 on enclosed inquiry slip

NEW

TYPE 20AS

NORGREN PRECISION PRESSURE REGULATOR

For air-gauging, laboratory use, pilot regulation and other applications requiring high sensitivity and extreme accuracy.

Operating benefits include: **1.** Accurate regulation even at pressures below 1 psig. **2.** Accurate control at all flows up to the maximum flow recommended for ¼" pipe . . . more than 2 times the flow previously possible with instrumentation regulators. **3.** Freedom from hunt, hum, chatter. **4.** Exact repeatability and freedom from drift over short or long time operation. **5.** Built-in relief.

Write for Brochure NA-7

FOUNDED IN 1926

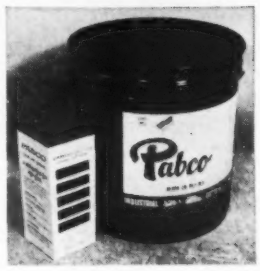
C. A. NORGREN CO.

3405 SOUTH ELATI STREET, ENGLEWOOD, COLORADO

For more details circle NED-812 L1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

ANTISLIP FLOOR DRESSING in liquid and trowel-on mixtures

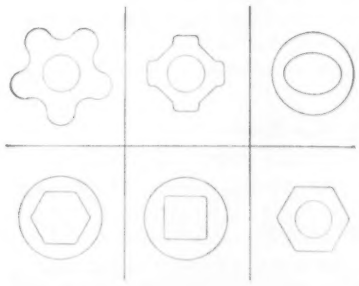


Safe, antislip coating in any of seven colors can be applied to floor, deck, or metal surfaces with Grip-Dek floor dressing formulated from hard synthetic resins, mineral aggregate, and asbestos fiber. Regular liquid Grip-Dek, with good resistance to petroleum oils, greases, solvents and cleaning compounds, is a fire-resistant, all-purpose, brush or roller-applied dressing that wears well in all types of weather. Heavy-Duty Grip-Dek is a two-part epoxy trowel-on material with exceptional antislip properties and resistance to alkalies, caustic solutions, acids, solvents, and industrial chemicals. It can be applied to on-grade concrete that has good drainage. • **Fibreboard Paper Products Corp.**, Pabco Industrial Products Div., 475 Brannan St., San Francisco 19, Calif.

For more details circle NED-813 L1 on enclosed inquiry slip

STAINLESS TUBULAR SHAPES extruded in various configurations

Extruded tubular shapes of stainless steel are being produced in sizes from 1½ to 3 in. OD, with minimum internal dimensions of ¾ in. Variation of a French - developed process utilizes a glass lubricant to process ingots directly by extrusion from billet to finished shape without rolling. Among the various exterior and interior configurations offered are special type nut blanks, connecting rods, impellers, shafting, and other shapes requiring hollow-round or shaped bores. Several cross sections are shown. • **H. M. Harper Co.**, Metals Div., Morton Grove, Ill.



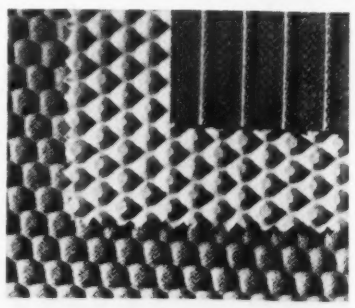
For more details circle NED-814 L1 on enclosed inquiry slip

PRESSURE-SENSITIVE ADHESIVE resists heat without lifting, creep

High heat resistance is exhibited by Bostik Adhesive 2105, a natural rubber base type for use on automotive masking, electrical, and similar tapes. On Hycar saturated tape stock, adhesive maintains adherence through prolonged baking operations without lifting or creeping. After a curing cycle of 20 min at 300° F, no transfer to plate is evident in fast or slow peel. Tan-colored adhesive has 1½ to 2½-min drying cycle in a circulating oven with exhaust at 195 to 220° F. It is applied by knife coating and has 40 per cent by weight solids content. Shelf life is six months or more. • **B. B. Chemical Co.**, 784 Memorial Dr., Cambridge 39, Mass.

For more details circle NED-815 L1 on enclosed inquiry slip

MOLDABLE FABRICS various Dynel patterns and colors



Thermal pliability of Union Carbide Chemical Co. Dynel modacrylic fiber permits it to be molded, embossed and, if desired, stiffened to permanent three-dimensional designs. When stiffened, the need for a metal grill or other retaining element is often eliminated. Plain, novelty textured, and jacquard patterns are offered in a variety of colors to blend with wood finishes and specific design motifs. Material is being used as speaker grill covers, upholstery covers, and other products. It is formed by simple heating, shaping, and cooling processes used with thermoplastic sheets and films, or by compression molding techniques with standard plastics equipment. Woven fabrics are 54 in. wide. • **Wayne Weavers Mills, Inc.**, 370 Seventh Ave., New York, N. Y.

For more details circle NED-816 L1 on enclosed inquiry slip

RIGID® 535
Pipe & Bolt Threading Machine

A Complete Pipe Workshop At Your Finger Tips!

Full 2" capacity. Plenty of power for up to 12" geared tools.

Universal Die Head included threads ½" to 2" pipe and conduit with just 2 sets of dies. Four other quick-opening heads available . . . ⅛" to 2" pipe or conduit, ¼" to 2" bolts. Fast, hand-action, positive-grip RIGID Speed Chuck . . . cam-action, Rear Centering Workholder . . . Roll-type Cutter and five-flute cone Reamer. All tools swing out of way when not in use. Short lengths can be chucked from front. Automatic re-circulating oil system . . . easy-to-read length gauge. With a No. 19 Nipple Chuck you can thread even close nipples in your spare time. Pays for itself fast.

Call your Supply House!
THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-817 L1 on enclosed inquiry slip

EVERY TOOL BOX NEEDS A RIGID®
Drop Head Threader Set

...For Fast, On-the-Spot Pipe Repairs

Snap a die head in the ratchet ring . . . cut your thread! Threading pipe, conduit, rod or bolts is as simple as that with a RIGID drop head threader. Heads can't fall out . . . dies reverse quickly for close-to-wall threading. Finest quality RIGID long wearing dies. Straight thread dies available.

Call your Supply House!
THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-818 L1 on enclosed inquiry slip

EVERY *Genuine* RIGID® IS **WORK-TESTED**
to make sure you get the Best and the Most wrench service for your money

Add the guaranteed repair-free housing, non-slip no-lock jaws, handy pipe scale, easy spinning adjustment and comfort-grip I-beam handle and you see why *genuine* RIGID Pipe Wrench gives you the big value for your money. Buy the wrench you know you can depend on.

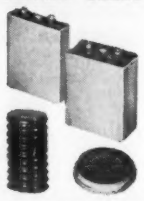
Call your Supply House!
THE RIDGE TOOL COMPANY
ELYRIA, OHIO, U.S.A.

For more details circle NED-819 L1 on enclosed inquiry slip

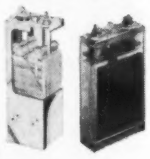
POWER from NICAD NICKEL CADMIUM Rechargeable Batteries

DESIGNED FOR
- Low Maintenance Cost
- Instant Efficient Operation
- Durability

SEALED CELLS



VENTED CELLS



NICAD Sealed and Vented Cells make practical the battery operation of many types of equipment not previously suited to dry, mercury, or lead acid types. Capable of sustained or stable voltage over a wide temperature range these NICAD Cells have extremely long life, require little or no maintenance, and are always ready to operate in any position under even the most adverse operating conditions . . . with POWER to spare.

For the full POWER story, write . . .

NICAD BATTERY DIVISION
GOULD-NATIONAL BATTERIES, INC. E-1400 First National Bank Bldg., St. Paul 1, Minn.

NICAD is a trademark of Gould-National Batteries, Inc.

For more details circle NED-820 L1 on enclosed inquiry slip

use SILICONE COMPOUNDS

Apply Dow Corning Silicone Compounds to lamp bulb bases, fuse cartridge clips, switch blades and clips — to wiping contacts on all devices — and prevent corrosion.

Versatile silicone compounds insulate, seal, preserve, waterproof, lubricate . . . stay on the job from −40 to over 400 F . . . prevent shorts, grounds arcs.

FREE SAMPLE and literature. Address Dept. A823.

first in silicones

Dow Corning CORPORATION
MIDLAND MICHIGAN

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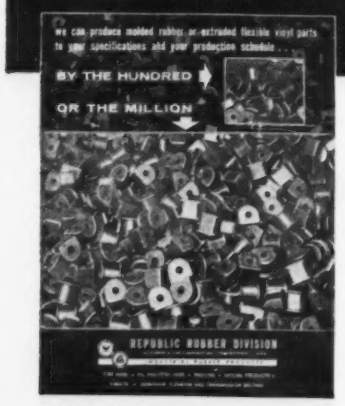
RUBBER AND PLASTIC PARTS



If it can be molded from solid rubber or extruded from flexible vinyl plastic, Republic Rubber can do the job. This folder shows how and why. Send for a copy today.

FREE! NO OBLIGATION

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

For more details circle NED-822 L1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Miniature Precision Gears

FREE Perfect Gear & Instrument Corp.—New items in pocket-size 256-page Catalog 6A on stock precision gears include miniature units with bores from 0.0900 to 0.3750 in. and face widths from 1/16 to 3/16 in. A line of antibacklash gears and mechanical slip-clutches has also been added. Specs are included for stock precision clamps, bearings, shafts, retaining rings, roll pins, and related electromechanical specialties.

For more details circle NED-823 L1 on enclosed inquiry slip

Silicone Rubber Guide

FREE Mechanical Rubber Products Co.—Latest in a series of booklets for designers, specifiers, and users of rubber products is 60-page reference entitled "The Uses and Abuses of Silicone Rubber." Guide will help user select the type of silicone rubber he needs for his applications. Featured is a cartoon section depicting and defining commonly used, although often misunderstood words relative to silicone rubber. All properties are covered.

For more details circle NED-824 L1 on enclosed inquiry slip

Centrifugal, Axial & Mixed Flow Pumps

Pic-A-Pump catalog of 1008 pages features engineering data conveniently arranged for selection of centrifugal, axial, or mixed flow pumps best suited to individual and specific applications. Parts listings and prices are included along with a 64-page reference section with data relating to pumps, hydraulic design, and general tables and charts often required in application of moving liquids. Available only by writing on company letterhead to **Allis-Chalmers Mfg. Co.**, 918 S. 70th St., Milwaukee 1, Wis.

For more details circle NED-825 L1 on enclosed inquiry slip

Emergency Lighting Handbook

Hardbound 96-page "Emergency Lighting Handbook" provides basic information on the problems of emergency lighting, covering installation considerations, equipment specifications, and maintenance requirements. It also discusses reasons for emergency lighting, probability of power, legal considerations, wiring requirements, types of equipment commercially available, exit lighting, and maintenance. Available for $2 from **Electric Cord Co.**, Handbook Dept., 432 Plane St., Newark 2, N. J.

For more details circle NED-826 L1 on enclosed inquiry slip

Rotameter Instruments Calculator

Basic temperature-pressure and specific-gravity equations involved in Rotameter sizing can be solved in one setting of the Sizing Factor Calculator. Applicable to any rotameter-type instrument, calculator consists of two circular slide rules, one for solving liquid-service and one for gas and steam-service equations. Available for $1 from **Brooks Instrument Co.**, 407 W. Vine St., Hatfield 6, Pa.

For more details circle NED-827 L1 on enclosed inquiry slip

Lab & Industrial Heating Equipment

FREE Thermolyne Corp.—Thermolyne and Temco lines of laboratory and industrial electric furnaces, hot plates, temperature controllers, pyrometers, magnetic stirring hot plates, and clinical apparatus are reviewed in 44-page Catalog 61. Cover carries a temperature conversion table to 9000° F.

For more details circle NED-828 L1 on enclosed inquiry slip

Electrical Wiring Devices

FREE Eagle Electric Mfg. Co.—Over 1500 electrical wiring devices, lamps, and other products are described and illustrated in 96-page catalog. Among the products are Touch-A-Matic quiet switches in single-pole, three-way, four-way, and double-pole types; receptacles with E-Z wire pressure terminals; and transformers, extension and cord sets, fuses, wall plates, and pushbuttons.

For more details circle NED-829 L1 on enclosed inquiry slip

Electronic Charts & Nomographs

Fifty-eight charts and nomographs contained in "Handbook of Electronic Charts and Nomographs" assist in computing many electronic formulas with slide rule accuracy. Vinyl overlay sheet can be positioned over any nomograph, permitting the user to rule in erasable pencil lines to connect graph scale points. The 8½ x 11-in. book lies flat when open. Price is $4.95. Available by writing to **Howard W. Sams & Co.**, 2201 E. 46th St., Indianapolis 6, Ind.

For more details circle NED-830 L1 on enclosed inquiry slip

Severance ELECTRODE DRESSING CUTTERS

Used by many to re-condition Electrodes without removing from machines—

Down-time is Slashed!

Production is Increased!

Designed to fit most all popular Electrode Dresser power tools.

Special shapes quickly made up.

INVESTIGATE!
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Severance TOOL INDUSTRIES INC.
761 IOWA AVE.
SAGINAW, MICHIGAN

For more details circle NED-831 L1 on enclosed inquiry slip

COLD STEAM!
CUTS COSTS ON EVERY CLEANING JOB!

New! TRIGGER MODEL $17.60

NOW 2 MODELS

STANDARD MODEL $12.95
Quality at a price!

Penetrating force of HYDRO-AIR blasts heavy dirt or quickly rinses metal sheets and small parts. Connects to your air and water supply. Siphoning attachment for application of solvents—under pressure—on parts, motors, machinery or any difficult surfaces. 1001 USES IN ALL TYPES OF INDUSTRY—Aircraft, Bakeries, Breweries, Bottling Plants, Cement, Dairies, Farming, Food Processing, Meat Packing, Railroads, etc.

ORDER THRU YOUR SUPPLIER or write direct:

HYDRO-AIR
Pressure Washer

D & M PRODUCTS, INC.
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Pasadena, California

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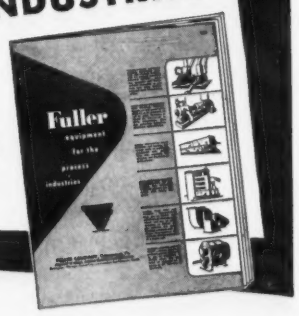
FREE BULLETIN

FULLER EQUIPMENT FOR THE PROCESS INDUSTRIES

12 pages of Photos Diagrams Charts



. . . tell you and show you how to move mountains of dry pulverized, crushed and granular materials to and from, up, over, around and under your plant to storage . . . and from storage to processing points . . . and do it economically.

It's called Fuller Equipment for the Process Industries. Just write for Bulletin G-3 . . . today. 1358 G211

FULLER COMPANY
154 Bridge Street
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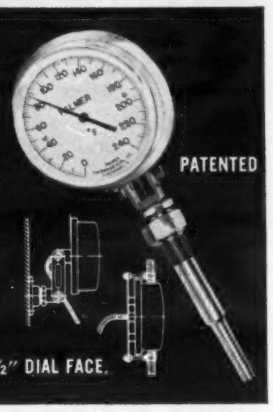
Fuller pioneers in handling air

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION

For more details circle NED-833 L1 on enclosed inquiry slip

PALMER

Mercury Actuated Dial Thermometers now in three types to suit any requirements



FULL 4½" DIAL FACE. Stem can be placed at any angle and case can be rotated to any readable position.

1 RIGID STEM DIAL THERMOMETER tapered bulb, interchangeable with standard industrial thermometer.

2 WALL MOUNTED DIAL THERMOMETER with flexible connecting armor.

3 FLUSH MOUNTED DIAL THERMOMETER for panel mounting.

ALL THREE TYPES HAVE A FULL 4½" DIAL FACE.

■ **for accuracy:** Mercury actuated . . . Compensated by Invar. Guaranteed Accurate 1 scale division. ■ **for angularity:** Can be adjusted to most readable position at any angle desired. ■ **for readability:** Bold Black Numbers . . . 11" of scale Reading Dial face can always be placed in easiest readable position. ■ **for interchangeability:** Also specify "PALMER" Separable sockets as they are interchangeable for Dial or Industrial type Thermometers.

PALMER

PALMER THERMOMETERS, INC.
Norwood Ave., Cincinnati 12, Ohio
Mfrs. of Industrial Laboratory, Recording & Dial Thermometers

▲ For more details circle NED-834 L1 on enclosed inquiry slip ▲

NOW! Use this Portable Bag Closing Machine

CLASS 2100

HERE is a handy little machine that makes bag closing fast, easy, and economical. It is recommended where operations are limited or intermittent and do not justify installation of large, high production machines.

LIGHTWEIGHT—9½ pounds. Carry it anywhere. No installation; requires only an electrical outlet.

POWERFUL—Direct drive motor with thumb control button. Exclusive top and bottom feed for greater power and production.

VERSATILE—Closes bags made of cotton, burlap, jute, multiwall paper, laminated paper.

SAFE—Anyone can operate it. No special training required. Comes with shoulder strap or can be obtained with overhead suspension. Send for descriptive literature.

FINEST QUALITY

Union Special® MACHINE COMPANY
416 N. Franklin St., Chicago 10, Ill., U.S.A.

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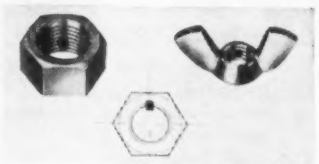
NEW MATERIALS AND PROCESSES

NYLON PELLET INSERTING
service performed on nuts and parts



Facilities for inserting nylon locking pellets into all types of nuts and threaded female parts are now available for long or short production runs on customer's parts. Equipment inserts the pellet from the inside without damaging the outer nut wall, thereby retaining structural strength. Process gives nuts good locking and torque characteristics without affecting external decorative finishes. Pelletizing can also be applied to male threads from either side. ● **Nylok-Detroit Corp.,** 1893 Barrett Rd., Troy, Mich.

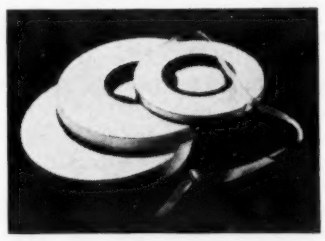
▲ For more details circle NED-837 L1 on enclosed inquiry slip ▲

EPOXY DILUENT
reduces liquid epoxy viscosity

Viscosity of liquid epoxy systems is reduced with Agent AT-534, a nontoxic reactive diluent. This high-boiling point, odorless liquid reacts readily with epoxy-curing admixtures without appreciable effect on rate of cure or gel, even at room temperatures. Its ability to reduce viscosity improves the resin's impact resistance. Agent will not react with epoxy resin in the absence of a curing agent, allowing long storage under normal conditions. It will form adducts with aliphatic polyamine curing agents which are capable of curing epoxy resins at room temperature, and will also solubilize aromatic polyamines, thereby forming compounds readily soluble in epoxy resins. ● **General Aniline & Film Corp.,** Antara Chemicals Div., 435 Hudson St., New York 14, N. Y.

▲ For more details circle NED-838 L1 on enclosed inquiry slip ▲

TEFLON TAPE
high physical, dielectric strength



Skived from molded Teflon billets, this Teflon tape provides tensile strength of 4000 psi, elongation of 300 per cent, and dielectric strength (3-Mil thickness) of 2700 v per mil. It meets Class H requirements for conductor, slot, phase, and ground insulation, as well as other specifications. Tape may be used continuously in a 250-300° C range with little change in insulating quality. It is offered in standard widths up to 12 in., thicknesses from 0.002 to 0.125 in., and in 11 colors, plus natural. ● **Chemplast, Inc.,** 3 Central Ave., East Newark, N. J.

▲ For more details circle NED-839 L1 on enclosed inquiry slip ▲

BRUSHES

The solution to many major or minor brush problems can be solved with United States Graphite Company's USG Brushes. The shunt connections are permanent. Sizes are accurate for each application from fractional horsepower to locomotive diesel generator. Grades include carbon, carbon-graphite, electrographilitic, graphite, metal-graphite and silver graphite.

There is helpful, useful data in the complete but CONCISE USG Brush catalog B-56 and the USG grade list. Write for your copies today.

B-243-1

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN

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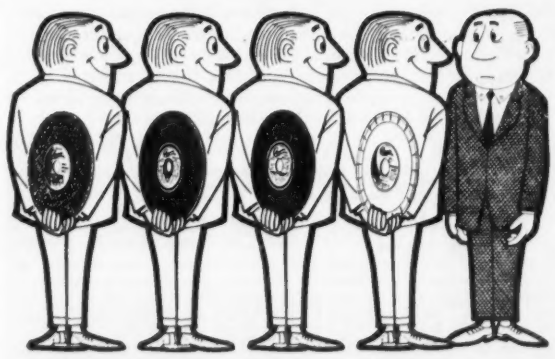
Ever Wonder Why 4 out of 5 Choose Clipper Blades?



It's no accident that the great majority choose Clipper blades for cutting masonry and concrete products of all types. Not when you consider that Clipper blades can cut your sawing costs as much as 30%. There's a Clipper factory representative near you. Let him show you how Clipper Diamond, Blue Bond Break-Resistant and Abrasive Blades can put extra dollars of profit in your pocket on every job. Ask too, how it's possible to get 32.7% greater blade life with the famous 14" Clipper SuperMatic Masonry Saw.

Clipper SAILS RIGHT THRU®

MANUFACTURING CO.
2800 Warwick, Kansas City 8, Mo.

FACTORIES: AUSTRALIA, ENGLAND, FRANCE, GERMANY, ITALY

262X

▲ For more details circle NED-841 L1 on enclosed inquiry slip ▲

typical problem materials successfully handled by a MOYNO . . .

Acetates	Concrete Slurry	Paints
Acetic Acid	Copper Nitrate	Paper Pulp
Acid Mine Water	Creosote	Pickling Acids
Alcohol	Cutting Oil	Printing Inks
Alum (paper mill)	Cyanide of Potassium	Prunes
Aluminum Sulphate	Drilling Mud	Resin Plastic
Aromatic Hydro-carbons	Ferrous Sulphate	Salt Brine 3% to 30%
Asphalt	Fuel Oils	Sewage
Barium Sulphate	Fuming Sulphuric Acid	Shellac
Bichloride of Mercury	Gasoline	Shrimp
Boiler Feed Water	Glue	Soda
Bordeaux Mixture	Hydrochloric Acid	Starch
Carbon Dioxide	Impregnating Compound	Sugar
Carbonic Acid	Lacquers	Sulfurous Acid
Calcium Chloride	Lard	Tar
Caustic Soda (lye)	Latex	Turpentine
Cement	Match Head Compound	Varnish
Citric Acid	Molasses	Vinegar
Clay Slurry	Nickel Sulphate	Wood Pulp
Coffee Grounds	Nitric Acid	Yeast

MOYNO® PUMPS
turn problems into profits . . .

Many materials, once considered "unpumpable," are now successfully handled by Moyno Pumps. Moynos move thin watery slurries, non-pourable abrasives, gnawing corrosives or suspended solids up to 1⅛" dia. A wide range of specially-resistant pumping element materials assures proper design for economical handling without excessive pump wear. Capacities from 1/100 to 500 GPM; pressures up to 1000 PSI. Write for new Bulletin 100-NE

ROBBINS & MYERS, INC.
Moyno industrial pumps, motors, household fans, Propellair industrial fans, hoists
SPRINGFIELD, OHIO • BRANTFORD, ONTARIO

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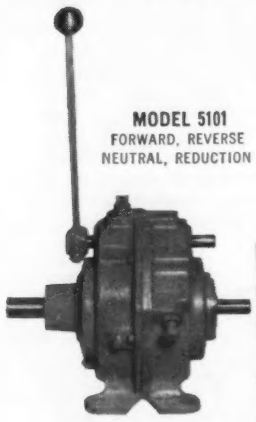
NEW HOT-SHIFT TRANSMISSION



MODEL 5101
FORWARD, REVERSE
NEUTRAL, REDUCTION

Snow-Nabstedt adds smaller, higher speed Model #5101 to their line of Reverse-Reduction Transmissions. This space saving unit is ideal for direct connection to small gasoline engines. It is available as a separate mounted unit or as an engine mounted package. Other performance proven 8 HP and 28HP models available.

SPECIFICATIONS	
Reduction Forward	2.47:1
Ratio Reverse	2.47:1
Power up to	8 HP
Max. Input Torque	200 in. lbs.
Max. Input Speed	3600 RPM
Dimensions Long	9"
Dimensions Wide	9"
Dimensions High	9¾"

Write for technical literature:
SNOW-NABSTEDT
The Snow-Nabstedt Gear Corporation
Hamden, Connecticut
TRANSMISSION SPECIALISTS FOR OVER HALF A CENTURY

For more details circle NED-842 L1 on enclosed inquiry slip

- Very small strapping surface required.
- Adjustable tension control.
- Strap easily inserted into stretcher.
- Continuous take-up of slack.

MODEL 651

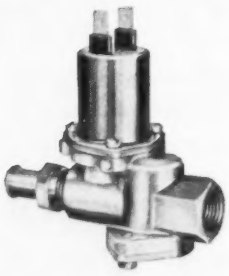
New pneumatic strapping tools . . . increase output by 50%

Here's the ultimate in pneumatic stretchers. Timed in field tests these tools were able to cut strapping time up to 50%. Amongst their many features, the new tools offer adjustable controlled tension . . . are able to take various sizes of strapping . . . will operate well on a small surface. Full details and specifications available on request. Circle reader service card or write:

A.J. GERRARD & COMPANY STRAPPING MATERIALS
410 East Touhy Avenue • DES PLAINES, ILLINOIS

For more details circle NED-843 L1 on enclosed inquiry slip

Solenoid Valves



Widely used in the appliance and vending machine industry, these valves have the ability to provide a predetermined liquid flow without regard to pressure. Brass, stainless steel or nylon bodies. Wide selection of mounting brackets, line connections and electrical specifications. Write to American-Standard Controls Division, 5900 Trumbull, Detroit 8, Michigan.

AMERICAN-Standard
CONTROLS DIVISION

For more details circle NED-844 L1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Aid in Panelboard Specifying

FREE Westinghouse Electric Corp. — Panelboard Quik Specifier facilitates the selection of panelboards for a wide variety of applications. Covered are AB circuit breaker type, lighting, distribution, and fusible panelboards. Illustrations and specifications of each are included.

For more details circle NED-845 L1 on enclosed inquiry slip

Tubular Products

FREE J. Bishop & Co., Platinum Works—Sizes, specifications, finishes, tolerances, chemistry, and applications for small diameter tubing up to 1 in. OD are outlined in 20-page illustrated Bulletin 13. Included are stainless steel, super alloy, nickel, and nickel alloy tubing, plus glass-to-metal sealing alloys, reactive and refractory metals, clad metals, and composite wires.

For more details circle NED-846 L1 on enclosed inquiry slip

Milling Cutters & Accessories

FREE Vascoloy-Ramet Corp.—Expanded line of milling cutters is detailed in two catalogs which include drawings and charts, plus specifications. Twelve-page Catalog 6103 describes throw-away insert face mill cutters for rough, semirough, and finish milling. Covered in 32-page illustrated Catalog 6104 are Rigidcut and Varicut inserted blade milling cutters.

For more details circle NED-847 L1 on enclosed inquiry slip

Packaged Switches & Thermostats

FREE Metals & Controls Inc.—Forty-two representative Klixon precision switch packages and thermostat packages are covered in each of two revised bulletins. Principal switches are metal-to-metal and glass-to-metal hermetically sealed types. Basic thermostats reviewed are the Klixon hermetically sealed M1, a vibration resistant, snap-acting, nonadjustable unit, and rod and tube types.

For more details circle NED-848 L1 on enclosed inquiry slip

Conveyor Belt Engineering

FREE Hewitt-Robins—Formula for conveyor belt horsepower requirements presented in 27-page illustrated Bulletin 175 was determined by studies of power consumed by troughing idlers, return idlers, return strand of belting, and carrying belt (both loaded and unloaded). Statistical data and tables for calculation, engineering, and selection of conveyor belting are included. Maximum plies for specific uses, recommended cover gages, takeup, and many other factors are covered.

For more details circle NED-849 L1 on enclosed inquiry slip

Electric Vibrators

FREE Syntron Co.—Fourteen standard pulsating-magnet type electric vibrators, plus three pneumatic and hydraulic units, are described and illustrated in 12-page Bulletin 81461. They promote the free flow of bulk materials through bins, hoppers, and chutes.

For more details circle NED-850 L1 on enclosed inquiry slip

Cam-Operated Indexing Units

FREE Standard Tool & Mfg. Co.—Light to medium duty Model ST-A9AB cam-operated indexing units for automatic production and assembly are subject of 16-page illustrated Bulletin 26. It describes both basic and precision units and contains data on available indexing cams, dial plates, machines, bases, motors, and timers. Also included are load rating tables and load calculation methods.

For more details circle NED-851 L1 on enclosed inquiry slip

Lathe Turrets, Centers & Tools

FREE Enco Mfg. Co.—Each of seven basic lathe turrets is described and illustrated in 24-page Catalog 61. Two selection guides provided are based on domestic and imported lathe specifications, and lathe center and maximum tool heights. Data on double rack and gear drive, MicroSet adjustable centers, and magnetic base tools complete the catalog.

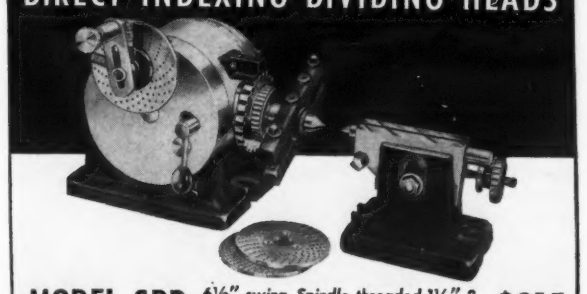
For more details circle NED-852 L1 on enclosed inquiry slip

Heat Transfer Cements

FREE Thermon Mfg. Co.—Technical details on Thermon heat transfer cement are found in 40-page illustrated, spiral-bound Engineering Data Book 502. Product is an inorganic heat transfer paste cement for application over either steam traced or electrical resistance heating systems. When cured, it forms an unbroken thermal connection between heat source and vessel to be heated.

For more details circle NED-853 L1 on enclosed inquiry slip

PROVED ACCURACY AT LOWEST COST from L·W America's Largest Builder of DIRECT INDEXING DIVIDING HEADS



MODEL SDD 6½" swing. Spindle threaded 1½"-8. 36 lbs. $215
MODEL BPD (shown) 11" swing. For plain milling machines. Spindle threaded 2¼"-10. 140 lbs. $345
MODEL AUD 11" swing. Fully universal. For complete indexing and spiral cutting. Spindle threaded 2¼"-10. 190 lbs. $510

Right or left hand types. Large tapered bearing adjusts for end play. Worm wheel and alloy stress-proof steel shaft can be fully disengaged. Ball bearing thrust on worm shaft and rear of spindle. Head tilts past 90°. Swivel base and rising blocks available. 3 index plates for dividing all numbers to 50, even numbers to 100 except 96T. Chart shows all divisions obtainable to 380.

Send for literature, giving dealer's name.

L·W CHUCK CO. 51 SOUTH ST. CLAIR STREET TOLEDO 4, OHIO
Lathe and Magnetic Chucks • Milling Machine and Drill Press Vises

For more details circle NED-854 L1 on enclosed inquiry slip

Cut Pallet Handling Costs With

■ MOTO-TRUC builds a full line of dependable pallet trucks that cost less to own and less to operate than competitive models. They are small and compact to fit in the tightest quarters, yet their rugged simplicity keeps them on the job longer . . . assures top performance on even the toughest jobs.

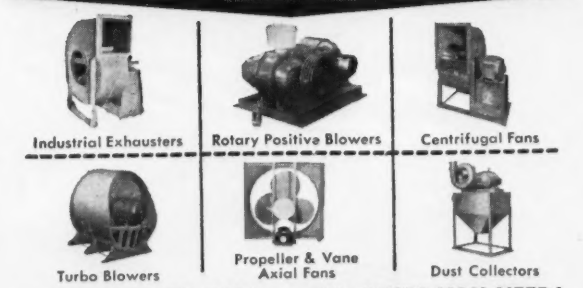
Get your Free MOTO-TRUC Catalog! Ask for walkie bulletin #56W.

World's Largest Exclusive Manufacturers of Walkie Trucks

The MOTO-TRUC Company
12415 TAFT AVE. • CLEVELAND 8, OHIO

For more details circle NED-855 L1 on enclosed inquiry slip

REBUILT and NEW AIR MOVING EQUIPMENT



SAVE 30% TO 50% . . . ON UNITS YOU NEED!

We can supply all leading makes of air moving equipment . . . *fully guaranteed.* Whether you need 1 cu. ft. of air or 100,000 for any type of industrial application, you'll find the equipment you need in our stock.

FREE

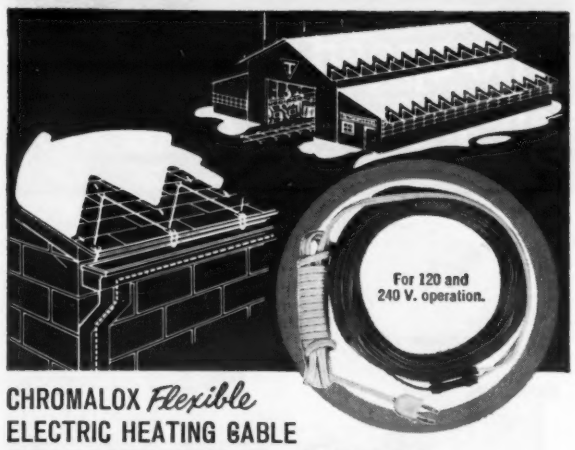
AIR MOVING EQUIPMENT DATA FOLDER

With this handy MEYER DATA FILE you can quickly select the unit you need and save money too. Data Folder contains engineering data sheets on Steel Plate Exhausters, Rotary Positive Blowers and Pneumatic Conveyors . . . plus equipment stock lists on new and rebuilt air moving units of every description and brand with current sales prices.

WRITE - TODAY

Wm. W. Meyer & Sons Inc.
8249 Elmwood Avenue
Skokie, Illinois

For more details circle NED-856 L1 on enclosed inquiry slip



CHROMALOX *Flexible*
ELECTRIC HEATING CABLE

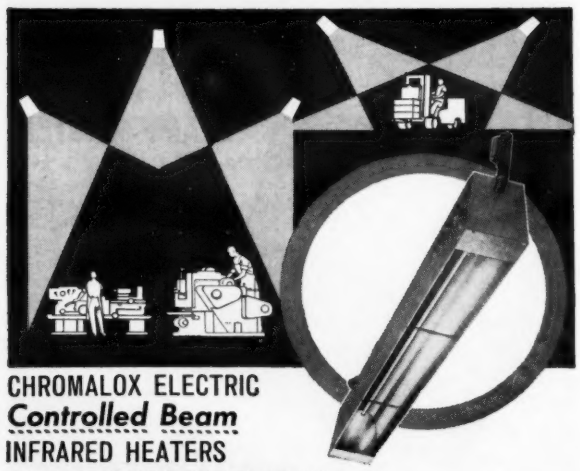
PROTECTS ROOFS, GUTTERS, DOWNSPOUTS from ice and snow damage

Chromalox Electric Thermwire provides low-cost protection against ice and snow damage to roofs, overhangs, gutters, downspouts and exposed water lines. Quickly and easily installed, Chromalox Thermwire is inexpensive to buy, install and operate; needs no maintenance; lasts indefinitely. Energized by flick of switch. Available in 12 sizes, in lengths from 6 ft. to 100 ft.

WI-30 **Write for Heating Cable Bulletin M-60100-5.**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-857 L1** on enclosed inquiry slip



CHROMALOX ELECTRIC
Controlled Beam
INFRARED HEATERS

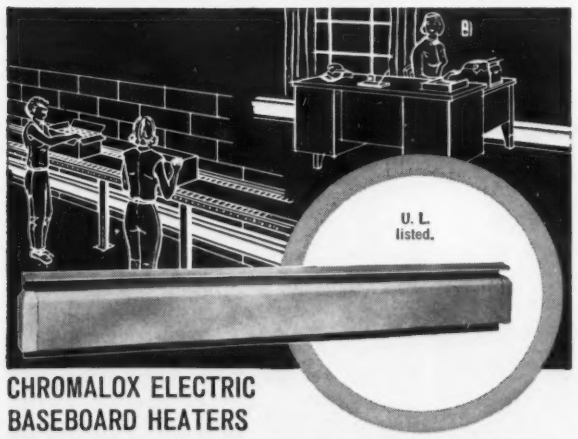
BEAM COMFORT HEAT where you need it!

Weatherproof Chromalox Controlled Beam Infrared Electric Heaters are scientifically "deep drawn" to focus infrared comfort radiation to exact work areas. Infrared heat is direct. It warms only men and materials, not the intervening air. It therefore gives maximum effectiveness and operating economy for a modest electrical input. Ideal for warehouses, laundry platforms, garages, factories, canopies, parking lots, vestibules.

WI-27 **For the Full Story—Ask for Bulletin F-72100-1**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-858 L1** on enclosed inquiry slip



CHROMALOX ELECTRIC
BASEBOARD HEATERS

UNIFORM, CLEAN, DRAFT-FREE HEAT...
automatically maintained temperatures

Chromalox Electric Baseboard Heaters can be flush mounted easily against perimeter walls in offices, shops, laboratories . . . wherever comfort heating is needed. Ideal for eliminating cold down drafts of large window areas or poorly insulated outside walls. Lengths: 1, 2, 5 and 8 ft., 100 to 1250 W. blank sections, 2, 5 and 8 ft. splice plates, end covers, corners. Single and double outlet section and integral relay section available.

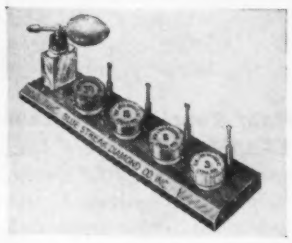
WI-35 **For Comfort Heating Facts—Request Catalog F-52-2.**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-859 L1** on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

DIAMOND ABRASIVE COMPOUNDS in micron and mesh particle sizes



Particle size is laboratory controlled in line of diamond abrasive compounds, offered in standard micron and mesh sizes. Vehicle is a homogenous formula completely soluble in water. Identified by color, the ready-to-use compounds are packaged in tubes, disposable syringes, small or large cartridges, or jars to suit the needs of the user. Kolor Keyed diamond abrasive compound board shown in photo is provided with purchase of four 5-gram jars of compound. • **Blue Streak Diamond Co.**, 36855 Schoolcraft Rd., Livonia, Mich.

For more details circle **NED-860 L1** on enclosed inquiry slip

PICKLING & PREPLATING ACID removes scale from ferrous metals

Synthetic detergents included in Clepo 198-JA powdered pickling and preplating acid suspend light oil residues and prevent them from floating on the acid solution. As a result, oil is not redeposited on clean parts when they are withdrawn from the solution. Catalysts provide the pickling action that removes stubborn scale deposits from ferrous metals. Acid also contains inhibitors which retard attack on ferrous metals and minimize acid consumption, but which will not interfere with subsequent plating operations. A light foam blanket is produced as the solution functions and acid fumes are eliminated. • **Frederick Gumm Chemical Co.**, 538 Forest St., Kearny, N. J.

For more details circle **NED-861 L1** on enclosed inquiry slip

FLUOROCARBON ETCHANT improves bond of ordinary adhesives

Ordinary adhesives can be used to bond Teflon, Kel-F, and similar fluorocarbon materials to various other materials when the plastic is etched with Fluorobond solution. Bond strengths as high as 55 lb per inch are realized in joining glass, aluminum, fabrics, ceramics, copper, rubber elastomers, plastics, and various metals. Solution is packaged in 2-oz bottles, 3-oz tubes, and in 1-pt, 1-qt, and 1-gal containers. Price is $3.75 for 3 oz and $45 per gallon. • **Joclin Mfg. Co.**, 23 Lufbery Ave., Wallingford, Conn.

For more details circle **NED-862 L1** on enclosed inquiry slip

CHROMALOX FIRST NAME IN ELECTRIC HEAT

Radcor ELECTRIC HEATING SYSTEMS

ELEMENTS AND HEATERS

At Your Service...

CHROMALOX RADCOR Electric Heat Sales Engineering Representatives

WI-20

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CHICAGO, ILL. Harrison 7-5464
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PHILADELPHIA, PA. GReenwood 3-4477
PITTSBURGH, PA. EMerson 1-2900
PORTLAND, OREGON Capitol 3-4197
RICHMOND, VIRGINIA ATlantic 8-8758
ROCHESTER, N. Y. HAmilton 6-2070
ST. LOUIS, MISSOURI Chestnut 1-2433
SAN FRANCISCO, CAL. Underhill 1-3000
SEATTLE, WASH. MAin 4-7297
SYRACUSE, N. Y. GRanite 4-3933
WICHITA, KANSAS Amherst 2-5647

For more details circle **NED-863 L1** on enclosed inquiry slip

CHROMALOX ELECTRIC
Snap-On DRUM HEATERS

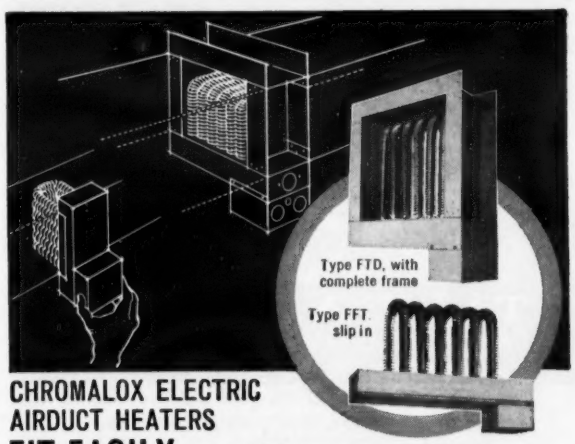
SNAP ON AND PLUG IN for fast, uniform drum heating.

Flexible, Chromalox Electric Drum Heaters, with or without insulated blankets, provide uniform heat for fast, easy melting of low melting point solids or for increasing the flow of heavy viscous fluids. Snap-on in minutes, put the exact heat where it is needed, heat and cool quickly. Standard shapes for 5 and 55-gallon drums; or custom shaped for special applications.

WI-31 **For details, write for bulletin PJ-100.**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-864 L1** on enclosed inquiry slip



CHROMALOX ELECTRIC
AIRDUCT HEATERS

FIT EASILY into old or new central heating and air-conditioning ducts

Chromalox Fintube Airduct Heaters are the answer to upgrading existing duct type heating systems, for auxiliary duct heating when boilers are down, for air conditioning reheat or for old and new central duct systems. Fully assembled heaters are pre-wired for quick installation. Ceramic coated metal sheath Fintubes will withstand constant exposure to moisture, vibration and mechanical shock. Fully protected from air flow stoppage by built-in thermal limit switch.

WI-29 **For Easy Comfort Heating Answers—Write for Catalog F-975E.**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-865 L1** on enclosed inquiry slip

CHROMALOX *Blower-Type*
ELECTRIC FAN TYPE UNIT HEATERS

PROVIDE RIGHT 'Working' Temperatures for men and materials

Chromalox Heavy Duty Type LUH Electric Unit Heaters can be installed anywhere that easy-to-work-in comfort levels must be maintained. They can be safely, economically and easily wall or ceiling mounted to heat entire buildings or rooms—and thereby eliminate costly boiler rooms, piping and radiators. Powerful Fan Drive assures heat "throw" even into remote corners.

WI-28 **For all Your Comfort Heating Answers—Write for Catalog F-975-E.**

CHROMALOX ELECTRIC HEAT
EDWIN L. WIEGAND COMPANY
7509 THOMAS BOULEVARD, PITTSBURGH 8, PA.
PROCESS COMFORT

For more details circle **NED-866 L1** on enclosed inquiry slip

Only Hytronic®

WITHOUT BEAM ADJUSTMENT

Cuts This Low... Cuts This High

Whether you cut

Rubber goods: seals, washers, gaskets
Apparel: suit components, skirts, neckties, belts
Packaging: blister, skin packaging
Leather: Luggage and leather goods and leather substitute items

United Hytronic® Cutting Machines can save money, simplify cutting. Dies differing in height as much as 2⅜" can be used alternately without beam adjustment, maximum die height of 5" or minimum of 5/16". *Result:* faster, more accurate cutting, increased production, lower overall costs. Send for details and "Fact" Sheets, today.

United

UNITED SHOE MACHINERY CORPORATION
140 FEDERAL ST., BOSTON, MASS.

To Cut Costs, Cut with United HYTRONIC Cutting Machines

▲ For more details circle NED-867 L1 on enclosed inquiry slip ▲

Saves Steps, Saves Time,
Saves Money...

TALK-A-PHONE

INTERCOMMUNICATION
The Accepted Symbol of Quality and Dependability

Only the New TALK-A-PHONE has these exclusive features!

- **DYNASONIC SELECTOR.** Select station performance, intermix or change as needed.
- **MULTI-MAGIC STATION SELECTOR.** Up to 50-station capacity in same attractive cabinet.
- **"PRIVATE" or "NON-PRIVATE" MASTERS and STAFFS.** Converse in privacy, answer calls from a distance.
- **NOISE-FREE, VOICE-RANGE POWER.** Rugged, All-Transistor, high-gain amplifier provides exceptional clarity and naturalness of tone.

PLUS ... Incoming Call Chime; Busy Signal; Monitoring Signal; External Relay Control; Reciprocal Power Supply ... all as standard features of the New TALK-A-PHONE

Proportioned like a book, only 3-inches high. The look and feel of fine-grained leather, with the strength and rigidity of steel. In charcoal gray and brushed chrome.

A.I.A. File Number 31-i-51

Write for free brochure and name of nearest distributor

TALK-A-PHONE CO.
Dept. NE-11, 5013 N. Keuzie Ave., Chicago 25, Illinois

▲ For more details circle NED-868 L1 on enclosed inquiry slip ▲

GOT A CUTTING PROBLEM? We Guarantee to Solve it or Your Money Back!

Tell us your problem and we'll send you the right saw or cutting tool. Use it for one month's free trial, then, if not satisfied, return the tool at our expense. We make this offer only because Huther products are of the finest quality and because we can specify the right tool for your application. Write, or phone collect.

If it's wood, metal, plastic, paper or textiles.

"We Can Cut It"

Huther Bros. Saw Mfg. Co. Inc.
1290 University Ave. • Rochester 7, N. Y.

▲ For more details circle NED-869 L1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Skin Packaging

FREE Union Carbide Development Co. — Skin packaging of industrial and consumer items is explained in 8-page illustrated booklet. Brief case histories reveal the economy, adaptability, advantages, and protection afforded by this packaging method.

▲ For more details circle NED-870 L1 on enclosed inquiry slip ▲

Floor Topping & Patching Compound

FREE A. C. Horn Companies—Thiopoxy 60 is a two-component floor topping and patching compound designed to withstand severe corrosive and abrasive conditions. Comprehensive 7-page technical Bulletin 85 lists the corrosive chemical actions which it resists and covers surface preparation of old or new concrete.

▲ For more details circle NED-871 L1 on enclosed inquiry slip ▲

Boring & Facing Heads

FREE Giddings & Lewis Machine Tool Co.—Continuous-feed heads for boring, facing, turning, backfacing, recessing, threading, grooving, grinding, and other work are reviewed in 12-page Catalog D-550. Line includes 12 standard models covering a range of work diameters from 7/16 in. through 96 in.

▲ For more details circle NED-872 L1 on enclosed inquiry slip ▲

Self-Aligning Bearings

FREE Bronze Bearings, Inc.—Engineering data on all styles of Lube-Align self-lubricating bronze bearings are furnished in catalog. This one-piece, self-aligning, integrally cast, spherical bearing is offered in a choice of mountings in a wide range of sizes.

▲ For more details circle NED-873 L1 on enclosed inquiry slip ▲

Electronic Products

The 1962 Catalog 210A on electronic parts and products provides a 13-page directory of semiconductors in addition to its regular semiconductor listing. The 592-page book also includes company's Knight brand of ready-made electronic instruments and its customer-assembled Knight-Kit equipment. Items of wide industrial use include PA systems for indoor and outdoor paging and plant-wide communications. Available by writing on company letterhead to **Allied Electronics Corp.**, 100 N. Western Ave., Chicago 80, Ill.

▲ For more details circle NED-874 L1 on enclosed inquiry slip ▲

Hydraulic Filters

FREE Vickers Inc.—Tell Tale filters for suction line use in hydraulic systems feature an outside indicator to show when cleaning is required. Elements range from 74 to 238 microns filtering capability in flow rates to 120 gpm. Details are provided in 4-page Bulletin 61-78.

▲ For more details circle NED-875 L1 on enclosed inquiry slip ▲

Hydraulic Lifting Devices

FREE Autoquip Corp.—Autoquip hydraulic lifting devices for many heavy-duty raising and lowering problems are reviewed in 6-page Folder 861-1. Auto-Level lifts range from 1000 to 100,000 lb capacity; Auto-Level and Flex-O-Dock dock ramps are rated at 20,000 lb capacity.

▲ For more details circle NED-876 L1 on enclosed inquiry slip ▲

Fasteners

FREE Tinnerman Products, Inc.—32-page Bulletin 359 on Speed Nut fasteners parallels each fastening principle employed in the major product line with actual application and engineering data. Included is a case-history section on fasteners which perform functions other than the primary fastening job.

▲ For more details circle NED-877 L1 on enclosed inquiry slip ▲

Industrial Mixers

FREE J. B. Ehrsam & Sons Mfg. Co.—Mixers shown in 16-page Catalog 8A range in capacity from 3.5 to 500 cu ft. They are designed for intensive blending of nonmetallic minerals, chemicals, cereals, and feeds, and are offered in vertical, horizontal, tumbling, and continuous types.

▲ For more details circle NED-878 L1 on enclosed inquiry slip ▲

Digital Data Acquisition System

FREE Consolidated Systems Corp.—The Micro-SADIC digital data acquisition system is introduced in 16-page technical Bulletin 3047. This high-speed, general purpose, solid state system is capable of sampling several hundred channels of analog data at up to 15,000 samples per second. It converts analog information to equivalent digital form and records it on magnetic tape.

▲ For more details circle NED-879 L1 on enclosed inquiry slip ▲

The speed control for air and oil—$3.45 (1/8"-1/4")

ROSS "CUB"

Now a speed control valve that regulates your cylinder movement with precision and sureness, but which lists at 3.45 each. And despite its lower costs, "CUB" features the same high quality of design and workmanship you've come to expect from Ross. "CUB'S" design stresses trouble-free operation and easy maintenance. CUB is small, aluminum, lightweight and suitable for liquid service. If you use speed controls, by all means call your Ross representative or write us.

ROSS OPERATING VALVE CO.
161E. Golden Gate Ave. • Detroit 3, Michigan

▲ For more details circle NED-880 L1 on enclosed inquiry slip ▲

1001 Clamping Jobs

WITH THE PUNCH-LOK K-45

CLAMP-MASTER KIT

Contains preformed, open-end clamps and P-38 locking tool.

A Low Cost Economical Kit—
For Fast, Smooth, Clamping of Hose, Insulation, Cable, Rope, Split Beams, etc.

LOOK! *It's "Loked" for Safety*

See your nearby Punch-Lok distributor or write direct.

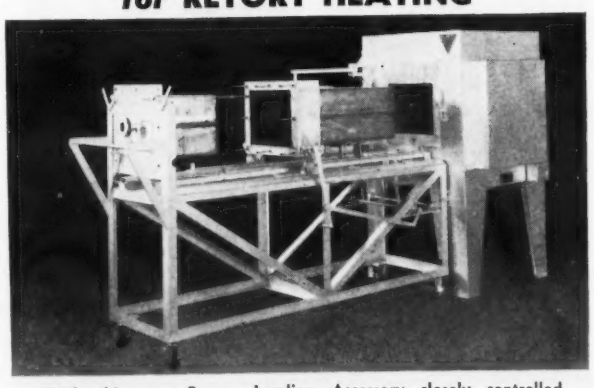
PUNCH-LOK Company
0275

The Sign of a GOOD Hose Clamp

Dept. A, 321 N. Justine St., Chicago 7, Ill.

▲ For more details circle NED-881 L1 on enclosed inquiry slip ▲

New Removable Muffle Converts General-Purpose Electric Furnace *for* RETORT HEATING



With this new Pereco Loading Accessory closely controlled protective atmosphere work can be performed in a standard Pereco 2400° F General-Purpose Heat Treating Furnace. Quickly removable muffle reduces cooling time and speeds up heating cycle. Use of two or more racks permits continuous furnace operation. Spring-loaded, plug-type door provides explosion protection. Among still other advantages, use of this conversion unit permits almost instantaneous conversion from retort to conventional operations.

Write Today for Full Details

PERENY EQUIPMENT CO., INC.

PERENY EQUIPMENT COLUMBUS OHIO

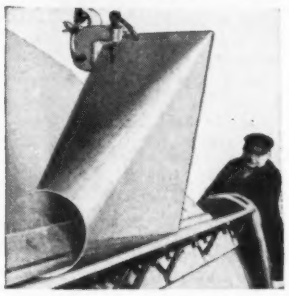
Dept. G, 893 Chambers Road, Columbus 12, Ohio

▲ For more details circle NED-882 L1 on enclosed inquiry slip ▲

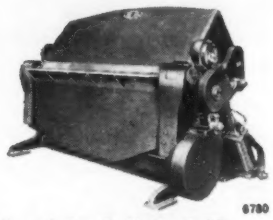
Bending Steel Plates for WELDMENTS?

do it economically with

CHICAGO® BENDING BRAKE



The elimination of die costs and the ease of changing from one job to another make the CHICAGO bending brake the economical method for bending steel plates for weldments. An automatic stop regulating the degree of bend assures duplication on successive pieces.



Many standard sizes are available with capacities for bending mild steel up to 12 feet by ¾ inch or 16 feet by ½ inch.

6780

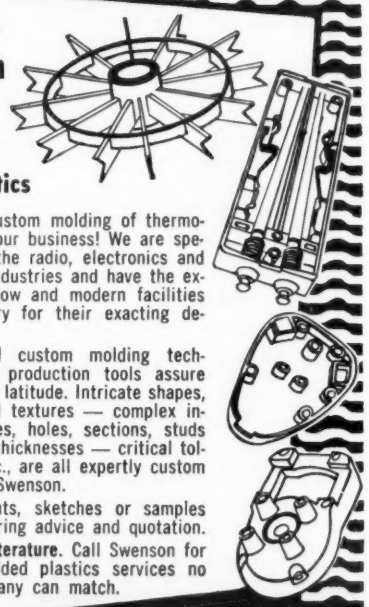
For details on how to do it, ask for Bulletin P-55

CHICAGO DREIS & KRUMP — Press Brakes · Straight-Side-Type Presses · Press Brake Dies · Hand and Power Bending Brakes · Special Metal-Forming Machines

DREIS & KRUMP MANUFACTURING CO.
7436 South Loomis Boulevard, Chicago 36, Illinois

▲ For more details circle NED-883 L1 on enclosed inquiry slip ▲

Call for Swenson



Custom Molders of Thermoplastics

Precision custom molding of thermoplastics is our business! We are specialists to the radio, electronics and appliance industries and have the expert know-how and modern facilities so necessary for their exacting demands.

Our special custom molding techniques and production tools assure wide design latitude. Intricate shapes, designs and textures — complex interior bosses, holes, sections, studs — precise thicknesses — critical tolerances, etc., are all expertly custom molded by Swenson.

Submit prints, sketches or samples for engineering advice and quotation.

Write for literature. Call Swenson for custom molded plastics services no other company can match.

V. H. Swenson co., inc.
Engineering in Plastics
554 Elm Street, Kearny, New Jersey

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NEW MATERIALS AND PROCESSES

EPOXY ADHESIVE
cures at room temperature

Two-component Bondmaster M666 epoxy adhesive is mixed in equal parts by volume until a uniform color of the red and amber components is achieved. Free-flowing product is applied by spatula, trowel, paint roller, knife, brush, or standard epoxy spray equipment. Metal-to-metal bonds cured at room temperature yield full strength of up to 3500 psi. Bonds with expanded styrene foam withstand 175° F for 200 hr without cell attack. Adhesive is used with various metals, Alnico magnets, graphite, glass, treated Teflon, various plastics, asbestos board, decorative laminates, wood, and particle board. • **Rubber & Asbestos Corp.**, Dept. P, 225 Belleville Ave., Bloomfield, N. J.

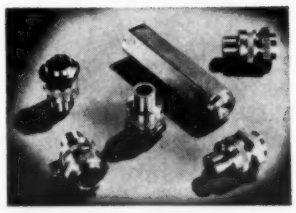
▲ For more details circle NED-886 L1 on enclosed inquiry slip ▲

PIPE INSULATION
for heating and cooling lines

Cellular structure of Hewflex urethane pipe covering makes it an effective pipe insulation throughout a wide temperature range. Unaffected by moisture, the highly flexible product seals out vapor and air and prevents condensation. It is used on liquid cooling and heating lines, chilled water lines, as well as refrigeration, air conditioning, plumbing, and processing operation lines. Rapid installation is possible, even in close quarters, around 90-degree turns, and over Tee joints. It slips onto uninstalled pipes or snaps around in-place piping. Insulation is ozone resistant, self-extinguishing, has high impact resistance, and its white surface can be washed. • **H. E. Werner, Inc.**, 2990 Industrial Blvd., Bethel Park, Pa.

▲ For more details circle NED-887 L1 on enclosed inquiry slip ▲

TELLURIUM BEARING STEEL
affords high machining rate



Machining speed over 3½ times as fast as standard B1112 screw machine steel is exhibited by LA-LED X tellurium bearing steel. Tests run on a six-spindle automatic screw machine producing spark plug shells from 13/16-in. hexagon bar stock indicated machining speeds up to 618 sfpm. Tool wear during these tests was normal, and drills showed no appreciable wear. • **LaSalle Steel Co.**, Box 6800-A, Chicago 80, Ill.

▲ For more details circle NED-888 L1 on enclosed inquiry slip ▲

EASTERN takes the gamble out of selecting POSITIVE DISPLACEMENT PUMPS

For small volumes against relatively high pressures, (200 psi) the Eastern GW series gear pumps are a natural. In each pump, oversized bearings of impregnated graphite support a drive gear of stainless steel and an idler of special bronze material. These self-priming units require no lubrication and cannot contaminate the liquid being pumped. For volumes from 1.5 to 6 gpm and pressures to 60 psi, you can't beat Eastern VW series vane pumps. These highly efficient units are designed around a cam-shaped pumping chamber assuring pulsation-free liquid flow. All Eastern positive displacement pumps are close-coupled with motor or can be furnished less electric motor with belt stand for belt or coupling drive. Write for Eastern's new Bulletin 220 on positive displacement pumps.

EASTERN INDUSTRIES INCORPORATED
Hamden, Connecticut

▲ For more details circle NED-889 L1 on enclosed inquiry slip ▲

ULTRASONIC EQUIPMENT BY WESTINGHOUSE

MORE CLEANING POWER PER WATT . . . HIGHEST PRODUCTION LINE RELIABILITY

Production line cleaning jobs are easier, faster with high power Westinghouse ultrasonic cleaning equipment. Solid-state ultrasonic generators achieve greater reliability, higher efficiency, and take less space. The new Westinghouse Magnapak transducers deliver more usable power than other transducers for the same electrical input. Tank sizes: 1½ to 600 gallons, power ranges from 250 to 25,000 watts. *Equipment is backed by local service—nationwide.*

Ask the Westinghouse Industrial Electronics Department, 2519 Wilkens Avenue, Baltimore 3, Maryland, for specific information, or a demonstration of how modern ultrasonics can solve *your* cleaning problem.

You can be sure . . . if it's
Westinghouse
J-35031

▲ For more details circle NED-890 L1 on enclosed inquiry slip ▲

DAY DUST CONTROL NEWS

Free! **9 informative dust control equipment bulletins**

BULLETIN G-331 — Describes the DAY Type "RJ" filter. An all purpose, versatile unit. Bulletin gives operating features, dimensions and specifications.
BULLETIN D-20 — Dual-Clone dust separators — noted for their low resistance and high cleaning efficiency. Easy to install, no maintenance, no moving parts.
BULLETIN E-221—"HV" heavy duty dust separator. Rugged construction and lower initial cost than many light gauge galvanized type cyclones.
BULLETIN F-421 — Reverse Jet Dust Filter Facts. Complete with specifications, typical equipment layouts, capacity and performance tables for DAY type "AC" filter.
BULLETIN N-261 — Gives complete information about Style "A" rotary valves. Construction features, specifications, dimensions and applications.
"SCHLITZ DEFEATS DUST" — FOOD ENGINEERING magazine reprint describes all out dust control for 3½ million bushel Schlitz grain elevator. Request Bulletin "Schlitz Defeats Dust."
"EFFICIENT DUST SNATCHERS" — Bulletin describes DAY's part in providing maximum safety and good housekeeping for starch packing building of large food processor.
BULLETIN 510 — DAY Unit Dust Collectors. Complete, low cost unit designed for plants or applications where central dust control systems are not practical.
BULLETIN I-585 — Industrial Fans. Complete with helpful selection charts, capacity tables, dimensions and specifications. Information on special types and arrangements included.

You can save time when planning and save money when buying if you'll send for these DAY dust control bulletins. Each contains valuable information about dust control equipment and systems. Here's general information plus useful technical data and specifications. Ask for any bulletin which interests you or write for them all — they're free. Use this magazine's reader service card or write direct toDAY.

The **DAY** *Company*

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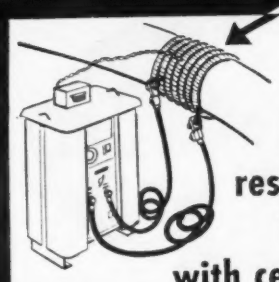
EQUIPMENT ONLY OR A COMPLETE SYSTEM

▲ For more details circle NED-885 L1 on enclosed inquiry slip ▲

NEW IDEA
for preheating and stress relieving



ARCOS Heat-O-Coil resistance wire insulated with ceramic beads

• Low cost • Easy to apply • Ideal for field use • Uses standard welding equipment.

Write for bulletin

ARCOS CORPORATION
1500 S. 50th St., Philadelphia 43, Pa.

For more details circle NED-891 L1 on enclosed inquiry slip

Esterbrook "Super" Marker never runs dry...it's refillable!

Two ways refillable: Use Esterbrook Refill Cartridge — only 50¢ . . . or refill with Esterbrook Flo-master Refill Ink (*20-refill can*), only 60¢. 8 bright colors. Writes on *anything!* Only 89¢ each. Esterbrook's "Regular" Marker — only 49¢.

ESTERBROOK
CAMDEN 1, NEW JERSEY

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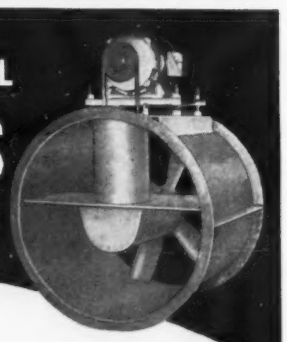
NEW HARTZELL
FIBERGLASS
DUCT FANS



OFFER
UNSURPASSED RESISTANCE TO CORROSION . . .
and at a cost substantially below that of stainless steel or monel construction

For details, call your nearby Hartzell field office or write for Bulletin A-116

HARTZELL PROPELLER FAN CO.
Div. of Castle Hills Corp.
52 Thomas Blvd., Piqua, Ohio A member of AMCA

For more details circle NED-893 L1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Machine & Tool Supplies

FREE Reid Tool Supply Co.—88 pages of illustrated tool supply catalog contains general information, specifications, and prices on control handle balls, broaches, blow guns, various types of clamps, die components, handles and knobs, hand wheels, safety pliers and tongs, set-up aids, springs, and square slotted sleeves.

For more details circle NED-894 L1 on enclosed inquiry slip

Heater Sections

FREE L. J. Wing Mfg. Co.—Designed for use as air conditioning preheaters, process heaters, and dryers, and fresh air supply heaters, the IFB heater sections detailed in 12-page Bulletin IFB-61 can be operated by steam, hot water, or high temperature hot water. The well illustrated bulletin covers advantages, principles of use, and typical applications are covered.

For more details circle NED-895 L1 on enclosed inquiry slip

Electrical & Lubricating Devices

FREE Trico Fuse Mfg. Co.—Engineering data on operating descriptions of automatic oilers, chain oilers, dispensers, single and multiple valves, mist systems, industrial fuses, and fuse accessories are found in 12-page condensed Catalog 61.

For more details circle NED-896 L1 on enclosed inquiry slip

Industrial Electronics Equipment

FREE Newark Electronics Corp.—More than 70,000 electronic equipment items for industry are listed in 1962 Catalog 72 which comprises 500 pages of products from more than 500 manufacturers. Items are grouped for easy reference and include prices.

For more details circle NED-897 L1 on enclosed inquiry slip

Boiler Feedwater Treatment

FREE Nalco Chemical Co.—Question and answer type 24-page Bulletin 30 entitled, "An Introduction to Boiler Feedwater Treatment" covers water as the raw material for making steam, why water treatment is needed, the removal of impurities, and the treating of boiler feedwater. Chemicals found as impurities in water and those used as treatments are listed.

For more details circle NED-898 L1 on enclosed inquiry slip

Tungsten Carbide Hard Surfacing

FREE Kennametal Inc.—How to apply tungsten carbide hard facing is explained in 8-page Bulletin B-175A. Procedure is detailed for application of KT-80 Tube Kenface by oxyacetylene torch, carbon arc, and gas tungsten-arc methods; and for the Kenspray method of hard surfacing. Booklet lists typical applications and tells how to estimate Kenspray coverage and costs.

For more details circle NED-899 L1 on enclosed inquiry slip

Construction of Industrial Brushes

FREE M. W. Jenkins' Sons, Inc.—"Standard Nomenclature for Construction of Industrial Brushing Tools" is title of 14-page booklet which illustrates every conceivable form of brush construction for every possible industrial application. Large cross-section drawings show brush characteristics and the methods of setting the bristles.

For more details circle NED-900 L1 on enclosed inquiry slip

Electric Gaging

FREE Hamilton Watch Co., Industrial Products Div.—"Advanced Trends in Electric Gaging" is title of 8-page booklet GB-2 which explains the functions of Hamilton electric indicator and control units. Typical applications to reduce cost of parts fabrication and inspection are described.

For more details circle NED-901 L1 on enclosed inquiry slip

Broaches & Broach Kits

FREE DuMont Corp. — Quick-reference information on line of Minute Man broaches is provided in 20-page catalog. Sizes and specifications are tabulated for keyway broaches and kits, and square, round, and hexagonal broaches. Reference data on keys, keyseats, and broaches for special applications are included.

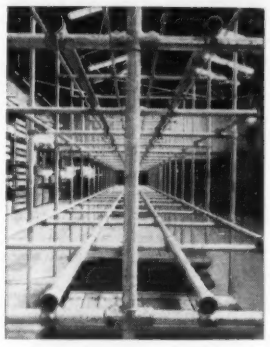
For more details circle NED-902 L1 on enclosed inquiry slip

Timing Instruments

FREE Heuer Timer Corp.—Over 100 different timers, from a basic stopwatch to a synchronous chronoscope for measuring intervals to 1/100 sec, are described in the 1961-62 selection guide. Sections cover the Heuer Central Register, special purpose timers, split second timers, time and motion equipment, sports timers, wrist chronographs, and panelboard instruments.

For more details circle NED-903 L1 on enclosed inquiry slip

NO NAILING, NO WELDING WHEN YOU USE KEE KLAMPS



What do *you* use for building storage and pallet racks, shelving, platforms, cat walks, scaffolding and things like that? Pipe is best, but has been too hard to use because of all the cutting and threading that had to be done.

BUT NOT ANYMORE! Today . . . thanks to Kee Klamps, those miracle *Threadless Fittings* . . . pipe is now the easiest...fastest...generally the most economical of all! Because KEE KLAMPS do away with all pipe-threading, actually reduce pipe-cutting by as much as 80% and more.

KEE KLAMPS USED THROUGHOUT THE WORLD

Think of it! Using plain Pipe & KEE KLAMPS, you can eliminate all nailing, bolting, welding, threading ...and almost all cutting! Now, even an unskilled worker can put up a framework of pipe in a *fraction* of the time it used to take an experienced carpenter or welder to build one out of wood or angle iron. And much better, too! Because pipe is stronger, waterproof, fireproof, won't warp or crack.

Send right now for FREE File Folder that tells all about KEE KLAMPS.

KEE KLAMPS NORTH AMERICA LIMITED
1070 WILLIAM STREET: BUFFALO 6, NEW YORK
In Canada: P. O. Box 370, Station T, Toronto 19, Ontario

For more details circle NED-904 L1 on enclosed inquiry slip

STOP . . . FAST and EASILY

MARITIME
Full shock and weather resistant, for shipboard or dockside use. 3—175 lb. ft. torque.

MARK II
Automatic reset release for remote control. 1½—175 lb. ft. torque.

PROTECTED ENCLOSURES
Water-proof. Dust-tight. Use with TEFC or TENV motors.

WRAP-AROUND
Cover style for NEMA C mount. For compact space, ease of access.

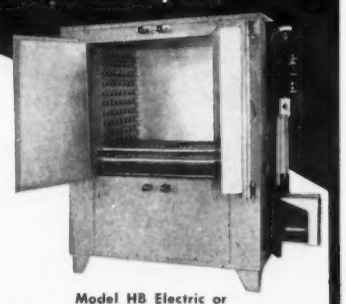
Dings provides a full line of standard and special direct-acting magnetic disc brakes. Coils for all standard voltages. For NEMA frames 56C thru 405SC. Foot mounts and adapters for all sizes. WRITE FOR BULLETIN BK4108.

LET DINGS DO IT!

DINGS BRAKES, Inc.
A Subsidiary of Dings Magnetic Separator Co.
4758 WEST ELECTRIC AVENUE
DB-561-S MILWAUKEE 46, WISCONSIN

For more details circle NED-905 L1 on enclosed inquiry slip

Precise engineering and construction result in
UNIFORM HEAT
throughout the work space



• High velocity recirculating blowers
• Greater heat input
• Adjustable louvres for balanced airflow
• Superior heat seals

All combine to provide *excellent temperature uniformity* in these rugged cabinet ovens.

Model HB Electric or Gas Cabinet Oven

30 Standard Models
• Work space from 4.6 to 72.3 cubic feet
• Temperature ranges from 100 to 1250° F.
• Electronic combustion devices insure safety for gas fired models
• Indicating control instrument
• Factory tested

Other ovens from $121.50 up, including a complete line of laboratory, bench, cabinet, walk-in, and custom-built units.

Write for literature to help you select the right oven for your application
Specialists in Heat Process Equipment

GRIEVE-HENDRY CO.
1353 N. Elston Ave., Chicago 22, Ill.

For more details circle NED-906 L1 on enclosed inquiry slip

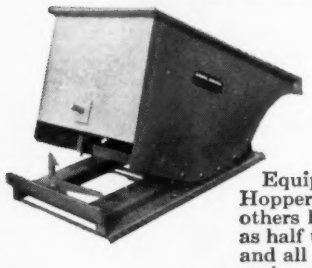
HYDE Circulars

You get accurate speed cutting with every Hyde Circular Knife. Hyde Circular Knives now cutting asbestos, cardboard, canvas, food, fruits, gaskets, hose, leather, meats, paper, plastic, rubber, tapes, textiles and many other materials. Send your specifications or write for free pocket catalog.

HYDE MFG. CO., SOUTHBRIDGE, MASS., U.S.A.

For more details circle NED-907 L1 on enclosed inquiry slip

How to Save 50% in scrap handling costs!



Equip your plant with Roura Hoppers—just as thousands of others have! You'll cut as much as half the cost of handling scrap and all other bulk materials. It's easier and safer too. Put Roura Hoppers to work moving scrap, metal small castings, cinders, punch press parts, glass, hot forgings or cullet. You'll see the savings right away.

A Roura Hopper may be carried by any lift truck (fork or platform) . . . and with complete safety. A simple latch lets it automatically dump and then return to a locked upright position when empty. For more information, phone us collect at TOwnsend 8-3560 or use coupon.

Specifications: *Eight sizes, ½ to 4-yard capacities. Construction: 3/16" steel plate with continuous arc-welded seams. Also available in heavier plate, galvanized, stainless or aluminum. Mounted on skids or choice of wheels. Standard models shipped from stock.*

WANT MORE DETAILS?
Just clip this coupon to your letterhead and mail to
ROURA IRON WORKS, INC.
1415 Woodland Ave., Detroit 11, Mich.

ROURA Self-Dumping HOPPER

For more details circle NED-908 L1 on enclosed inquiry slip

ADDED LIFE

NEW RAPISTAN® casters with ADIPRENE* wheel treads

New ADIPRENE treads give Rapistan Casters ADDED TOUGHNESS for lasting service under the most rugged conditions—ADDED RESILIENCY to prevent chipping or gouging—ADDED ROLLABILITY for easy starts and rolling—ADDED RESISTANCE to chemicals, mild acids, etc.—ADDED FLOOR PROTECTION with non-marking treads. Available on rigid and swivel casters with 3½" to 8" wheel diameters and load capacities to 1300 lbs.

WRITE FOR COMPLETE INFORMATION

*Reg. Trade Mark DuPont Co.

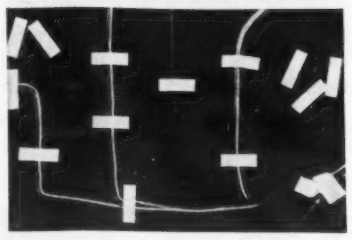
The RAPIDS-STANDARD CO., Inc.
617 Rapistan Bldg.
Grand Rapids 2, Michigan

Rapistan® CASTERS AND WHEELS

For more details circle NED-909 L1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

FLEXIBLE FASTENING MATERIAL holds wiring harnesses in place



Velcro two-part flexible fastening material for holding wiring harnesses in place consists of white loomed nylon tape which has tiny nylon hooks projecting from its surface and a black loomed fabric with a pile of fine nylon loops. When the two are pressed together, hooks and loops engage with substantial holding power. When pulled apart, hooks straighten, release the loops and snap back to their original hook shape. Wiring harnesses mounted on the black Velcro fabric are held in place by small pieces of tape pressed around the wires. Tape with hooks on one side and loops on the other side can also be had for wrapping around groups of wire. • **Hartwell Corp.**, 9035 Venice Blvd., Los Angeles 34, Calif.

For more details circle NED-910 L1 on enclosed inquiry slip

PRINTED CIRCUIT LAMINATE has high peel strength at 500° F

Peel strength of 2 to 4 lb per inch of width at 500° F is exhibited by Grade G-10R copper-clad laminate for printed circuitry. It delivers peel strength of 9 to 11 lb per inch of width at room temperature. High temperature rating is obtained using 2-oz copper foil measured on 1/16 and ⅛-in. widths. This grade uses no structural adhesives and meets all specifications of Grade G-10 at the same price. It is offered in 36 x 36 and 36 x 48-in. sheets. • **Synthane Corp.**, N. E. River Road, Oaks, Pa.

For more details circle NED-911 L1 on enclosed inquiry slip

CANVAS REPAIR CEMENT mends and waterproofs holes, rips

Rips, tears, and holes in any canvas fabric can be mended with Tarp 'N Tent patch cement. The quick-drying adhesive also waterproofs the critical area by forming a flexible, water-resistant coating. Where a patch is needed, cement is particularly easy to apply. It is offered in quantities ranging from the ½-pt brush-top can shown for $1.48 to a 5-gal kit priced at $7.95 a gallon. • **W. J. Ruscoe Co.**, 483 Kenmore Blvd., Akron 1, Ohio.

For more details circle NED-912 L1 on enclosed inquiry slip

FASTER HANDLING for all small parts

Rapistan® PRESS-VEYORS

Call on Rapistan for the most efficient equipment to handle any type of mass-produced machine parts, forgings, stampings, light or heavy, any shape, any size, any temperature. Press-Veyors work at steep inclines in close quarters, easily portable, thoroughly dependable. Wide range of Press-Veyor sizes and belt materials. Ideal for press room work and many special problem applications. Magnetic models also available.

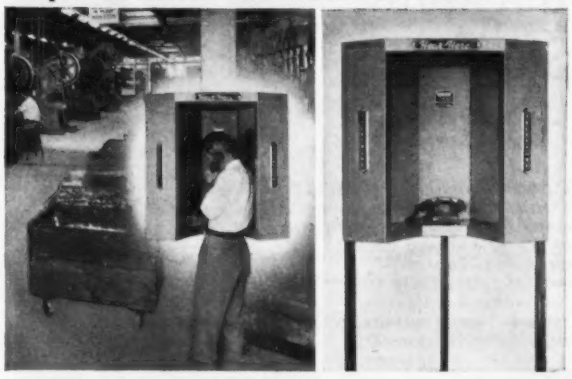
Write for illustrated reports of tough handling jobs solved by Rapistan Press-Veyors.

Rapistan® conveying equipment

The RAPIDS-STANDARD CO., Inc.
607 Rapistan Building, Grand Rapids 2, Michigan

For more details circle NED-913 L1 on enclosed inquiry slip

Talk in the QUIET environment of a BURGESS-MANNING ACOUSTI·BOOTH placed in the *noisiest* areas



outside sounds HUSH as you walk in . . . no rush to distant shop office for important phone calls

The No. 45 above achieves the utmost in acoustical efficiency. No other booth approaches its sound absorbing performance. Open construction allows full ventilation—no hot or stuffy feeling—no stale odors—no doors to maintain. Available for wall mounting, or free-standing on steel legs.

Write for ACOUSTI-BOOTH catalog today showing No. 45 and many other models.

ARCHITECTURAL PRODUCTS DIVISION
BURGESS-MANNING COMPANY
733 East Park Ave.
Libertyville, Ill.

For more details circle NED-914 L1 on enclosed inquiry slip

...with ACROFLEX, the pliable notched steel strapping

You'll find ACROFLEX as handy to have around your plant as nails and wire. ACROFLEX comes in 10 ft. lengths and can be bent by hand to conform to practically any shape needed. Illustrated above are only a few of the many possible uses of ACROFLEX.

Get more facts FREE

Complete information on ACROFLEX is contained in this folder. Write for your copy today. Ask for bulletin A-890.

Territories available for qualified representatives.

ACRO METAL STAMPING COMPANY
1901 North Buffum, Milwaukee, Wis.

For more details circle NED-915 L1 on enclosed inquiry slip

facts and figures about NEW Rapistan® POWER and FREE conveyor

Send today for this new bulletin illustrating application ideas for Power-and-Free overhead conveyor — a coordinated flow system for overhead installation. Shows applications in processing, transportation, storage. Ask for Bulletin 2365.

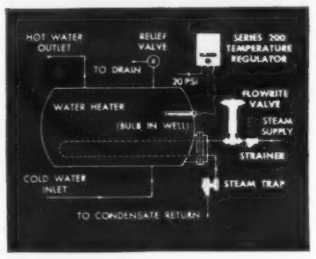
The RAPIDS-STANDARD CO., INC.
610 Rapistan Building
Grand Rapids 2, Michigan

Rapistan® OVERHEAD CONVEYOR

For more details circle NED-916 L1 on enclosed inquiry slip

Practical Ways To Control Hot Water Storage Heaters

Powers *Engineer's Manual, Steam-Water Service* containing diagrams such as the one shown here on storage heater control is available to you without obligation. Included are diagrams and details on domestic hot water . . . instantaneous heat exchangers . . . heat exchangers for cooling . . . fuel oil heaters . . . pressure reducing . . . jacket water cooling . . . two-temperature hot water systems.



Send for your Engineer's Manual now! Also ask for recommendations on any special requirements.

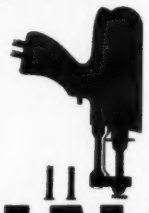
THE POWERS REGULATOR CO.
Dept. 1161 Skokie 44, Illinois
In Canada:
The Powers Regulator Co. of Canada Ltd.
Downsview, Ontario

POWERS CONTROL

For more details circle NED-917 L1 on enclosed inquiry slip

GET ALL THE FACTS ON...

NELSON® STUD WELDING



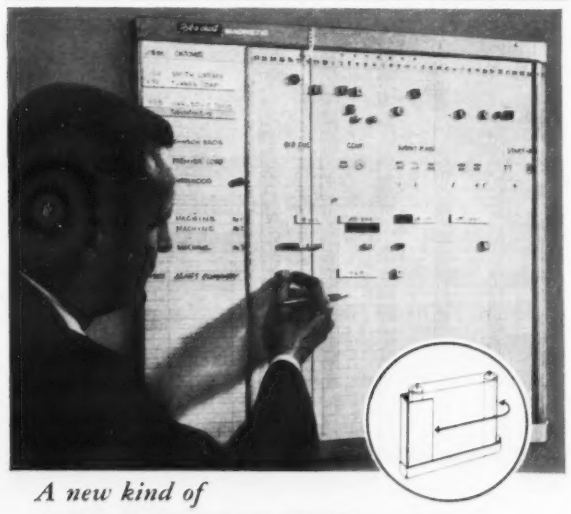
- REDUCE COSTS, INCREASE PRODUCTION
- END-WELD STUDS TO STEEL OR ALUMINUM — FAST
- ELIMINATE DRILLING, TAPPING, HAND WELDING
- IMPROVE PRODUCT DESIGN, QUALITY
- HANDLES STEEL STUDS UP TO 1-INCH DIAMETER

Send for Nelson Stud Welding "Design Manual"

NELSON STUD WELDING
DIVISION OF GREGORY INDUSTRIES, INC.
DEPT. 102-22 LORAIN, OHIO

GREGORY INDUSTRIES

For more details circle NED-918 L1 on enclosed inquiry slip



A new kind of
MAGNETIC *scheduling*
with **MAGNETS** *that* **MOVE** *with time!*

Entries made with magnets or marking pencil directly on rolling sleeve to schedule orders, production, data processing, sales, projects.

Rol-a-chart T. M.
MAGNETIC
Visual Control Boards

FREE Scheduling Guide and sample chart section

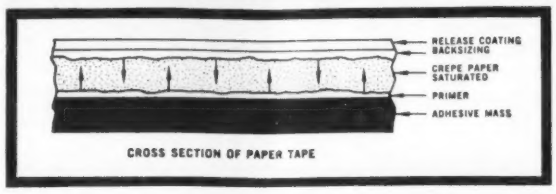
Rol-a-chart • P. O. Box 291 • Mill Valley, California

For more details circle NED-919 L1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

PRESSURE SENSITIVE TAPES
for sealing, holding, other uses

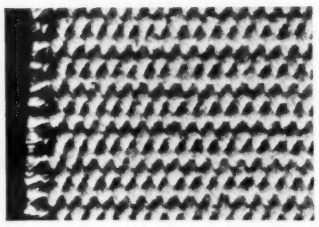
Extensive line of pressure sensitive tapes includes products for masking, sealing, holding, protecting, reinforcing, splicing, identifying, and packaging. They



are made with paper, cloth, and film backings. Paper tape is made in general purpose and high temperature masking types, and in a protective covering type. Cloth tape, in three grades and several colors, includes a waterproof type. Economy and high strength glass reinforced strapping tapes, a high strength-high adhesion packaging tape, and a printable identification tape are also offered. Completing the line are freezer, double-faced adhesive polyethylene and plastic-backed electrical tapes. • **Armour & Co.**, Armour Alliance Industries Div., 16123 Armour St. N.E., Alliance, Ohio.

For more details circle NED-920 L1 on enclosed inquiry slip

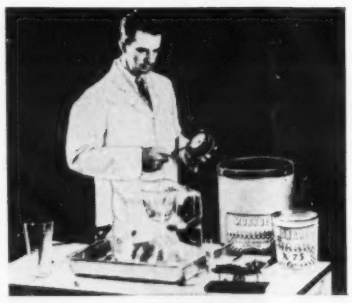
CONVEYOR BELTING
in three cotton-nylon grades



Cotton and nylon are combined in three grades of solid-woven conveyor belting, available with three types of covers. Light in weight, the belting has good impact, puncture, and edge wear resistance. Extreme flexibility permits its use on 45-degree deep trough type idlers. Mineveyor grade has a polyvinyl chloride cover coating with 8640 "gripping fingers" per square foot to eliminate load and drive slippage. Monarch grade has a black neoprene coating, is fire resistant, and can be used both above and below ground. Industrial grade is offered with neoprene or various rubber coatings. All three are made in 210 and 170-lb-per-inch maximum allowable working tensions, and accommodate 8 to 10 in. minimum pulley diameters. Stocked widths are 24, 30, 36, 42, and 48 in. • **Hewitt-Robins**, 666 Glenbrook Rd., Stamford, Conn.

For more details circle NED-921 L1 on enclosed inquiry slip

ICE MELTING COMPOUND
harmless to shrubs, concrete, grass



Addition of Xylo-Phosite to X-73 ice melting compound not only increases its melting and penetrating power, but introduces rust inhibiting qualities. Product leaves no residue to be tracked in, and is harmless to concrete, shrubs, and grass. In the test shown, compound melted halfway through the block of ice in 10 min. Pavements, walks, drives, parking lots, and docks, plus gutters, downspouts, and drains can be treated with the compound, offered in 80-lb bags and 100 and 150-lb drums. • **Monroe Co.**, 10708 Quebec Ave., Cleveland 6, Ohio.

For more details circle NED-922 L1 on enclosed inquiry slip

WATER-BASE ADHESIVE
bonds foil to porous surfaces

Water-base Rubbatex adhesive will bond aluminum foil to paper, plastic, and many porous surfaces with a transparent, nonstaining, permanently-flexible bond. It requires only one-side wet application by conventional coating machine or flow or spray gun. For laminating foil to plastics or other nonporous surfaces, adhesive is applied to one surface and allowed to dry. Permanent bond is then formed upon application of heat. Adhesive is offered in 1 and 5-gal containers and 55-gal drums. • **Rubba, Inc.**, 1015 E. 173rd St., New York, N. Y.

For more details circle NED-923 L1 on enclosed inquiry slip

5,000 psi.
MERCOID PRESSURE CONTROL

OUTSIDE ADJUSTMENT
VISIBLE ON/OFF CIRCUIT
VISIBLE PRESSURE SETTINGS
SEALED MERCURY CONTACT

AVAILABLE TYPES
DXA-21
minimum differential 450 psi.
DXA-521
minimum differential 200 psi.
DXS-221
minimum differential 150 psi.

OPERATING RANGE
500 to 5,000 psi.

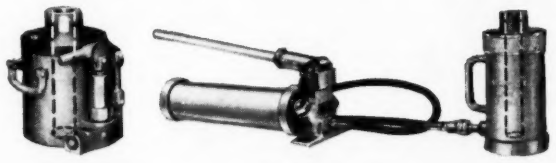
WRITE FOR BULLETIN O-21

THE MERCOID CORPORATION
4201 Belmont Ave., Chicago 41, Ill.

For more details circle NED-924 L1 on enclosed inquiry slip

PUSH or PULL
6 times faster with SIMPLEX
"CENTER-HOLE" HYDRAULIC JACKS and PULLERS

Pull or push right through the hole in the center of the ram which provides its own back-up . . . Simplifies rigging, eliminates torque, makes jobs 6 times faster and easier.



"JENNY" Self-Contained Hydraulic Pullers
6 models, 30 to 100 tons capacity; specials to 600 tons. Single and double pump types, reading gauge optional.

"RE-MO-TROL" Hydraulic Jacks and Pullers
Remote-controlled, center-hole and solid rams, hand or powered pumps. 15 general-duty models; 10 to 150 tons capacity. 25 heavy-duty models; 150 to 300 tons capacity. Wide range of accessories.

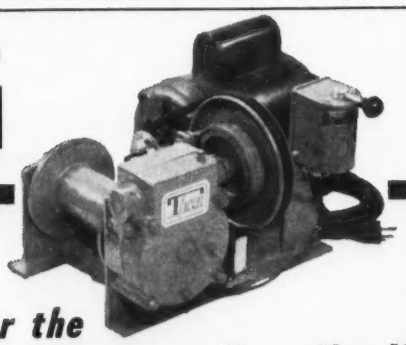
Write for Catalog Hydraulic

SIMPLEX RE-MO-TROL UTIL-A-TOOL JACKS JENNY ROL-TOE

TEMPLETON, KENLY & CO.
2565 Gardner Road
Broadview, Illinois

For more details circle NED-925 L1 on enclosed inquiry slip

Call on THERN



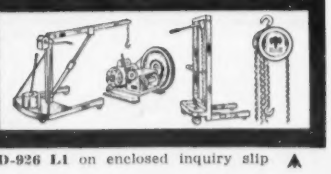
. . . for the Winch that meets Your Need!

Simple in design, the THERN line of spur gear and worm gear winches meets every need for smooth dependable winching. Load capacities from 500 lbs. up to 5000 lbs! Specify THERN winches with confidence—for your plant service needs . . . or for component part applications.

- 22 fully guaranteed models; hand operated or electric
- Utility winches—for farm, marine and general use
- Worm Gear Winches—to hold the load at any position
- Heavy Duty Winches—all steel industrial type; 2½ tons capacity.
- Complete line of cable and tackle accessories

Send for FREE 6-page catalog

Thern
MACHINE COMPANY
3800 West 4th St.
Winona, Minnesota



For more details circle NED-926 L1 on enclosed inquiry slip

AIR COMPRESSORS

Kellogg-American compressors deliver more USABLE FREE AIR per kilowatt hour.

Superior engineering, workmanship and rugged construction assure LONGER trouble-free life.

Over 250 different models from ⅓ thru 20 HP, including bare compressors, base-plate mounted and tank-mounted units. Available in single and two-stage models.

FOR DETAILED SPECIFICATIONS, WRITE TO:

Kellogg-American

DIVISION SCAIFE COMPANY • PITTSBURGH 35, PA.

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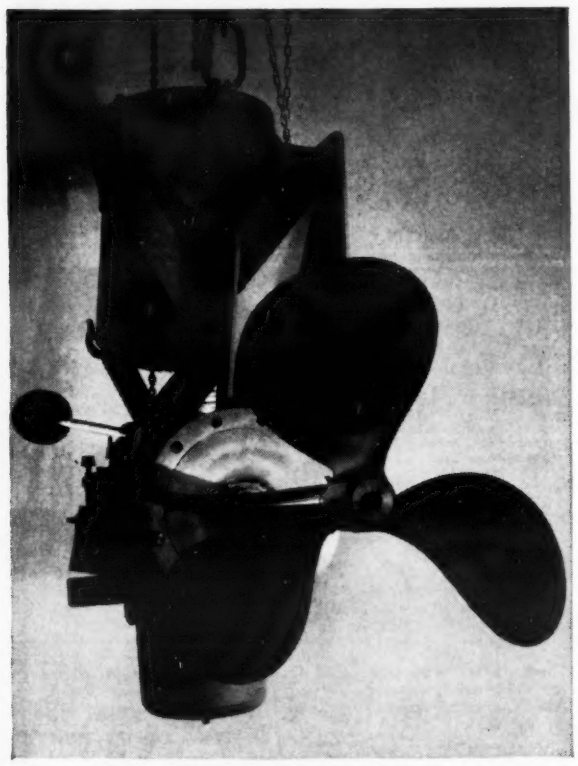


Now...mix or blend big tanks with less installed power

This side-entering mixer will deliver up to 50% more fluid flow per horsepower.

It's one of the new series of LIGHTNIN Side Entering Mixers—a Hi-Flo line especially designed to handle the big jobs economically.

These mixers give you extra pumping capacity. More usable *blending* and *mixing power* for every unit of power input. You save on power load, on hookup, on installation costs . . . yet you get the same—*or better*—results.

For example: if you're now using 15, 20, or 25 hp to blend a tank, *you can do the same job in the same time* with a LIGHTNIN Side Entering Mixer rated at 10, 15, or 20 hp, respectively. That's a saving of 5 hp—lets you operate more mixers without increasing your plant load capacity.

Get details now. You get economy and performance like this only with new LIGHTNIN Side Entering Mixers: the hollow quill NSE Series with independent shaft support; the new RSE Series with mixer shaft directly connected to speed reducer; and the V-belt driven VSE Series.

For details, call your LIGHTNIN Mixer representative. He's listed in Thomas' Register and in the yellow pages of your telephone book. Or write directly to us for Bulletin 526.

Lightnin' Mixers

MIXCO fluid mixing specialists

MIXING EQUIPMENT CO., INC., 165-m Mt. Read Blvd., Rochester 3, New York

In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 19, Ont.
In Europe: Lightnin Mixers, Ltd., Poynton, Cheshire, England

▲ For more details circle NED-928 L1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Stored-Energy Switchgear

FREE I-T-E Circuit Breaker Co.—40-page Bulletin 2800-2B furnishes comprehensive information on 4.16 and 13.8-kv circuit breakers and switchgear and points up such features as the stored-energy closing system, face-wound blowout coils, and closed-door drawout. Units are available in both indoor and outdoor constructions.

▲ For more details circle NED-929 L1 on enclosed inquiry slip ▲

Multiple Spindle Drill Heads

FREE Zagar, Inc.—Comprehensive data furnished in 16-page Bulletin DH-9-61 covers multispindle heads for drilling, reaming, tapping, and boring. It relates these heads to automation and provides all drawings and tables required in basic production planning.

▲ For more details circle NED-930 L1 on enclosed inquiry slip ▲

Push-Pull Control Cables

FREE Morse Instrument Co., Push Pull Cable Div. —Determining load requirements and selecting proper core sizes for push-pull control cable applications are explained in 4-page Catalog 162. Dimensional data covers cables with 3/32, ⅛, and 3/16-in. cores.

▲ For more details circle NED-931 L1 on enclosed inquiry slip ▲

Cable Reels & Measuring Equipment

FREE Hykon Mfg. Co.—Wiring reels, portable extension cord reels, cable reel lifters, wire meters and measuring equipment, storeroom reels, cable reels, and joist borers are among items listed in 10-page price bulletin. All equipment is illustrated.

▲ For more details circle NED-932 L1 on enclosed inquiry slip ▲

Precision Tweezers & Pliers

FREE Hammel, Riglander & Co. — Swiss-made tweezers and lightweight pliers for precision industries are illustrated in 8-page catalog. Items include cutting, self-locking, curved point, grooved point, and wire types.

▲ For more details circle NED-933 L1 on enclosed inquiry slip ▲

Precision Cams

FREE Eonic Inc.—Wide range of cams and camshafts made to ±0.000010 in. tolerances are portrayed in 6-page Bulletin 210. It also pictures contour gaging equipment designed and built to specifications.

▲ For more details circle NED-934 L1 on enclosed inquiry slip ▲

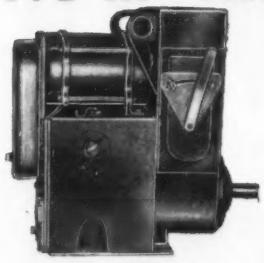
Meter-Relays

FREE Assembly Products, Inc.—Story of locking contact meter-relays including operating features and standard circuits for achieving control action is presented in 24-page Bulletin 5. It also covers isolated coils, double locking coils, response time and damping, overload protection, and control components used with meter-relays. Prices are included.

▲ For more details circle NED-935 L1 on enclosed inquiry slip ▲

1½ HP VARIABLE SPEED

0-350 RPM



Stock #HT-350-T

Hydraulic Transmission

with Instantaneous Reversing

UNUSED GOV'T. SURPLUS
Govt. Cost $3880.00
modified for industrial use
. . . see details below

Only $147.50 f.o.b. Chicago

COMPLETE with MOTOR
220 Volt, 60 Cy., 3 Ph., A.C.

Incorporates A Powerful 6-to-1 Torque Multiplier
For High Torque Applications Such As:

- Conveyors
- Machine Tool Drives
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1½ horsepower capacity (continuous duty). Complete with totally enclosed motor, 220 volt, 60 cy., 3 ph., A.C. This Gov't. surplus hydraulic transmission has been modified through addition of our own speed control and other components for even greater industrial application. Output speed reversible in either direction from 0 to 350 RPM. Forward and reverse speeds can be the same or different. Speed is smooth and constant. Ideal for continuous reversing! Precise effortless speed selection. Neutral off position. Controls easily altered for remote control. Ball and Roller bearing throughout. Extremely compact and self contained; size 21½" L, 9" W, 20½" H. 200 lbs. Output shaft 1" dia. 2½" long with standard keyway. Shipped complete with full instructions and service manual.

Other motors optional at additional cost. { 220/440 V., 60 Cy., 3 Ph. ....add $37.50 ; 220 V., 60 Cy., Single Ph. $36.75

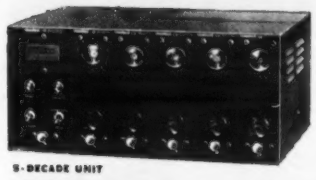
SUPPLY LIMITED! ORDER DIRECT FROM THIS AD
1-YEAR GUARANTEE
full purchase price back less shipping if unsuitable in any way
• Write, wire or phone TAYLOR 9-1365 •

ROBERTS ELECTRIC COMPANY, Dept. ND-228
849 W. GRAND AVE • CHICAGO 22, ILLINOIS

▲ For more details circle NED-936 L1 on enclosed inquiry slip ▲

accelerate production,

Improve accuracy, cut costs with



5-DECADE UNIT

Tally-COUNT® electronic predetermining counter

Tally-COUNT automatically counts precise units into a container . . . determines exact footage from a roll . . . stops and recycles machine operations at preset counts, at electronic speeds.

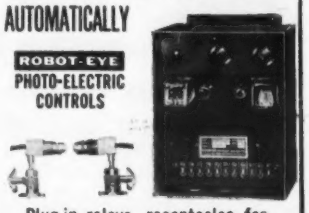
Tally-COUNT is actuated by external contacts or electronic impulses, control relay operates required mechanism: solenoid, motor, cut-off knife, etc.

Optional plug-in accessories: Batch Register, Photo-Electric Eyes, Footage Counters, Multiple Pre-Set Decades.

SPEEDS OPERATION
ELIMINATES GUESSWORK
BOOSTS PRODUCTION

Count, inspect, control production AUTOMATICALLY

ROBOT-EYE PHOTO-ELECTRIC CONTROLS



Plug-in relays, receptacles for plug-in connection of time delays, lamps and cells.

Write for Brochure CP-11.

standard INSTRUMENT CORPORATION
657 BROADWAY, NEW YORK 12, N. Y.

▲ For more details circle NED-937 L1 on enclosed inquiry slip ▲

FINALLY . . . A DIAL INDICATOR WHOSE MOVEMENT MECHANISM IS SO WEAR-RESISTANT . . . SO SHOCK-RESISTANT . . . THAT YOU WILL PROBABLY NEVER HAVE TO REPAIR OR REPLACE IT

Most Federal Dial Indicators are now being supplied with this revolutionary Miracle Movement. Free Brochure.

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Ask **FEDERAL** *First*

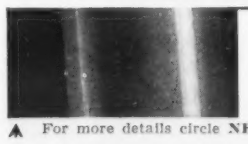
FOR RECOMMENDATIONS IN MODERN GAGES . . .
Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

▲ For more details circle NED-938 L1 on enclosed inquiry slip ▲

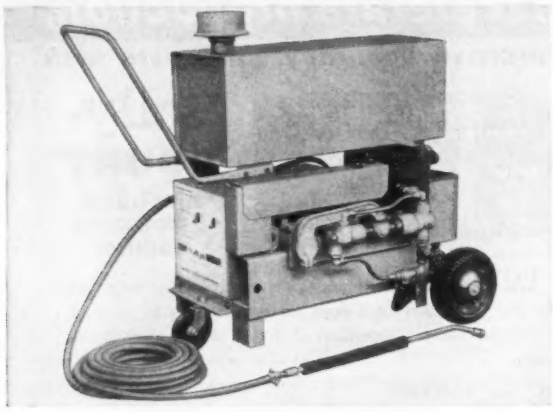
NEED DRAWN or EXTRUDED ALUMINUM TUBE?

WRITE

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. S, 17272 SOUTHFIELD RD., ALLEN PARK, MICH.
TUBEMANSHIP in Copper — Copper Alloys — Aluminum — Special Metals



▲ For more details circle NED-939 L1 on enclosed inquiry slip ▲



Plant Clean-up a headache?

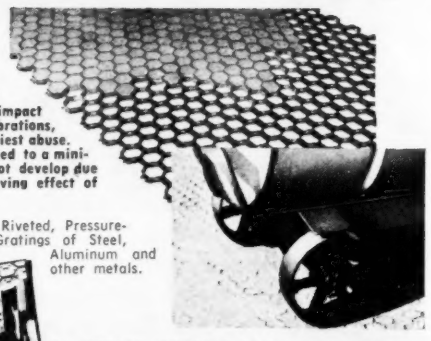
Multi-Job Washer is Sure Cure

Mighty, but small, Jenny Multi-Job Washer takes the headache out of plant clean-up. Its combination of pressure cleaning solution and controlled electric heat cleans machinery, walls, floors, equipment in a jiffy. Takes no more room than a 55-gallon drum. Portable, self-contained for continuous operation. Costs only $450. It's all-electric—so, no fumes. No flame. No fogging. For full time-saving, work-saving details, write or check item number.

hv HOMESTEAD VALVE MANUFACTURING COMPANY
Hypressure Jenny Division • P.O. Box 84 • Coraopolis, Pa.
(In Canada: Hypressure Jenny Sales & Service, Ltd. 517 Jarvis St., Toronto 5, Ont., C.S.A. Approved)

For more details circle NED-942 L1 on enclosed inquiry slip

SIMPLIFIED FLOOR ARMORING IRVICO® "GRIDSTEEL"



virtually eliminates damage to floors caused by heavy traffic, impact loads, skidding, vibrations, etc. Takes the heaviest abuse. Maintenance reduced to a minimum. Cracks cannot develop due to the stress relieving effect of this steel mesh.

Manufacturers of Riveted, Pressure-Locked, Welded Gratings of Steel, Aluminum and other metals.

"A FITTING GRATING FOR EVERY PURPOSE"

IRVICO®
IRVING SUBWAY GRATING CO., Inc.
Originators of the Grating Industry
Offices and Plants at
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1815 10th St., OAKLAND 23, CALIFORNIA

Write for 20 Page Color Catalog—"GRIDSTEEL ARMORING"

For more details circle NED-943 L1 on enclosed inquiry slip

FREE CATALOG shows complete line of low cost water and steam

HUMIDITY CONTROL UNITS

Informative FREE catalog describes, illustrates 14 unit humidifiers with low first cost, low operating cost. Water and steam units have automatic controls and come in various sizes and capacities suitable for any size area or plant need. Self contained humidifiers are installed easily from ceilings or on walls.

Send for your free copy today. Use handy coupon.

N-9-N
THE BAHNSON COMPANY
Winston-Salem, N. C.
Please send your illustrated Catalog 104:
NAME
FIRM
ADDRESS
CITY STATE

THE BAHNSON COMPANY • WINSTON-SALEM, N. C.
For more details circle NED-944 L1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Automated Materials Handling

FREE Barrett-Cravens Co.—Case histories and descriptive literature on automated materials handling are provided in Brochure 614. It emphasizes that the idea of automated machines replacing manpower to effect savings is only partially true, and points to the greater savings reflected in the system itself, the ability to time and schedule, and the control of output.

For more details circle NED-945 L1 on enclosed inquiry slip

A Summary on Grease

FREE Bardahl Mfg. Corp.—Easy-to-read 32-page summary covers basic principles, properties, and types of lubricating grease, with rules for choice and application. The effect of various additives on grease properties is considered in solving many industrial lubrication problems.

For more details circle NED-946 L1 on enclosed inquiry slip

Adjustable Speed Drives

FREE General Electric Co.—How to analyze, compare, and select adjustable speed drives is explained in 32 pages of illustrated Bulletin GEA-6999. Units range from 1/20 to 1000 hp. Featured are a price comparison table and an analysis of drive functional requirements.

For more details circle NED-947 L1 on enclosed inquiry slip

Measuring Surface Roughness

FREE Micrometrical Mfg. Co.—Profilometer equipment for manual and mechanical tracing, mechanical tracing on hard-to-reach surfaces, and circular tracing, as well as special Profilometer equipment, are reviewed in 12-page Catalog 161. This equipment measures in a 1-to-3000 microinch range on inside diameters down to 0.040 in., outside diameters down to 0.005 in., gear teeth as small as 48 diametral pitch, flats, tapers, internal grooves, and $\frac{1}{4}$-in. holes up to 30 in. deep.

For more details circle NED-948 L1 on enclosed inquiry slip

Turret Drilling Machines

FREE Burgmaster Corp.—Burgmaster six and eight-spindle automatic hydraulic turret drilling machines, as well as special machines built from standard components, are described in 16-page catalog. Units have from $\frac{3}{4}$ to $1\frac{1}{2}$-in. capacity in steel. Options include automatic tape controls that adapt machines to wide range of work.

For more details circle NED-949 L1 on enclosed inquiry slip

Cylindrical Accumulators

FREE Superior Pipe Specialties Co., Superior Hydraulics Div.—80-page catalog shows both single and double-shell floating piston cylindrical accumulators ranging in oil volume from 7.07 cu in. up to 43.7 gal, with working pressures from 2000 to 5000 psi. All units shown will operate in a −40 to 180° F range, handling commercial hydraulic fluid.

For more details circle NED-950 L1 on enclosed inquiry slip

Southern SCREW COMPANY
STATESVILLE • NORTH CAROLINA

SPECIALISTS IN STANDARD FASTENERS
—All USA MADE OF USA MATERIALS

Order from your Southern Distributor, or write for Stock List to Southern Screw Company, P. O. Box 1360, Statesville, North Carolina.

Tapping Screws • Thread Cutting Screws • Machine Screws & Nuts • Wood Screws • Stove Bolts • Drive Screws • Hanger Bolts • Speaker Screws • Continuous Threaded Studs • Roll Thread Carriage Bolts

Warehouses: New York • Chicago • Dallas • Los Angeles

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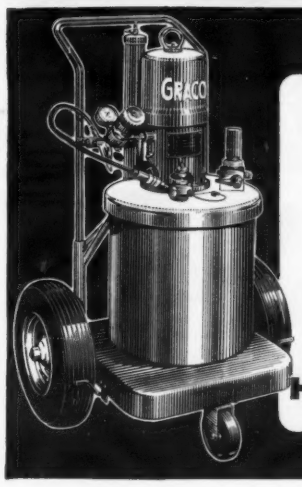


Get "RIGHT-SIZE" ECONOMY... "RIGHT-SIZE" CONVENIENCE with GRACO HYDRA-SPRAY

Why pay for a spray painting unit that's too big . . . or too small . . . when there's a Graco Hydra-Spray that *exactly* fits the job.

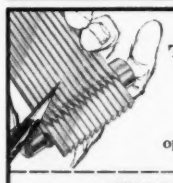
Eleven models, stationary, portable and standpipe, from 5 gallon capacities to 55 gallon capacities, comprise the Graco Hydra-Spray line of *airless* spray painting equipment.

See your local Graco dealer for the Hydra-Spray unit that fits your job like a glove!

GRACO ENGINEERS & MANUFACTURERS / GRAY COMPANY, INC.
117 Graco Square
Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

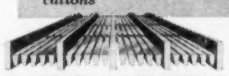
For more details circle NED-952 L1 on enclosed inquiry slip



TAPER-SLOT from loop to loop, opening between wires increases to eliminate blinding of near opening size materials

WEDGE-WIRE Kleenslot
PREPARATION SCREENS DESIGNED for VIBRATING or STATIONARY INSTALLATION for *dewatering, screening, washing, extracting, filtering or sizing applications*

T-WEDGE
new concept in guard bar design—small screen efficiency—long guard bar life.

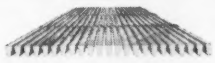


SCREEN GUARDS
screening surface protected from unnecessary abrasion

G187 and GB187 MIGH-TEE
special profile adds wearing surface for extended heavy-duty applications

F217 and F250
large size wire for extended life in abrasive applications

"S"
primarily designed to screen out flats and slivers



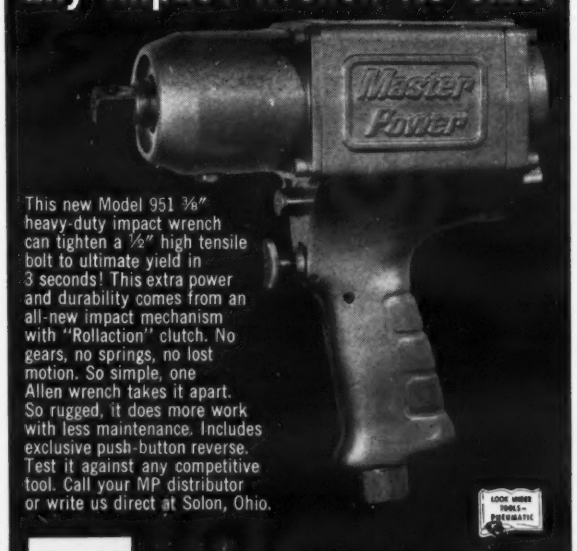
MARCEL
designed to screen out objectionable "slivers"

Wedge-Wire Kleenslot screens are custom manufactured for your application in almost any size, metal or finish and in special shapes not illustrated above.

send for free catalog
WEDGE-WIRE CORPORATION *Wellington, Ohio*

For more details circle NED-953 L1 on enclosed inquiry slip

OUT-PERFORMS, OUT-LASTS any impact wrench its size!



This new Model 951 ⅜" heavy-duty impact wrench can tighten a ½" high tensile bolt to ultimate yield in 3 seconds! This extra power and durability comes from an all-new impact mechanism with "Rollaction" clutch. No gears, no springs, no lost motion. So simple, one Allen wrench takes it apart. So rugged, it does more work with less maintenance. Includes exclusive push-button reverse. Test it against any competitive tool. Call your MP distributor or write us direct at Solon, Ohio.

MP Master Power
A subsidiary of Black & Decker

For more details circle NED-954 L1 on enclosed inquiry slip

BETTER PERFORMANCE
• Less slippage
• Longer life

Try Darcova Pumcups in your reciprocating pumps and cylinders, and you too will realize what a *big* difference they make.

Because they are "engineered" for their job—in precisely controlled textures, shapes and types—and are noted for outlasting other packings at least 3 to 1! Why not get the advantage of this tremendous saving in maintenance and down-time?

Pumcups are available in Nylon as well as other texture-engineered compositions. Send today for Bulletin No. 5903.

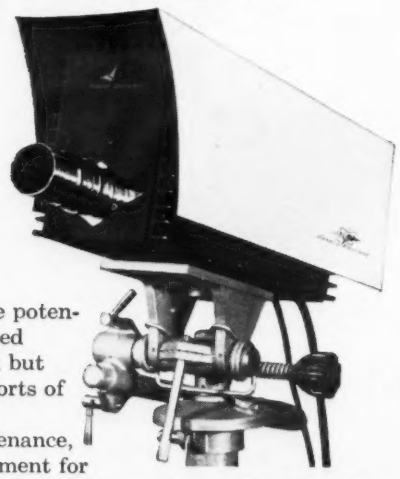
Pumcup designs include the conventional and 45° bevel types in a full range of sizes for all reciprocating pump and cylinder requirements.

DARLING VALVE & MANUFACTURING CO.
Williamsport 35, Pa.

DARCOVA TRADE MARK PUMCUPS

For more details circle NED-955 L1 on enclosed inquiry slip

New Hawk 401 Utiliscope permits... AN UNPRECEDENTED PROPOSITION IN CLOSED CIRCUIT TELEVISION...



Impressed by the potential value of closed circuit television but *depressed* by reports of high initial cost, expensive maintenance, constant requirement for difficult adjustments, and general unreliability? Then listen . . . to an unprecedented proposition from the world's oldest manufacturer of industrial closed circuit television: Indoor or outdoors, in any kind of weather with practically any degree of illumination, Diamond Electronics' all new Hawk 401 Utiliscope is *guaranteed on a money-back basis* to provide a sharp, clear picture of just about anything . . . perimeter barriers, gates, transfer points, loading docks, construction areas, vehicular movement, rooftops, hazardous areas . . . all from one safe, comfortable and convenient location. The Hawk requires no special housing, no special power supply, no special adjustments for changing light and weather conditions. Just plug it into an ordinary 110 V outlet and forget about it.

See for yourself. Call, write or wire and we'll arrange a demonstration within the week.

Diamond Electronics
Diamond Power Specialty Corporation • Lancaster, Ohio

For more details circle NED-956 L1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

WASHROOM CLEANING KIT
has cleaning, disinfecting items

Everything needed for cleaning, deodorizing, sanitizing, and disinfecting is provided in this washroom maintenance Sani - Kitt. Instructions offered with the kit, together with Plunkett chemicals, scouring powder, steel wool, sponge, mop, and plastic gloves, enable any employee to do a professional cleaning job. Chemicals provided are a liquid scale and stain remover containing a germ killer; a combination disinfectant, deodorant and fungicide; a solvent cleaner and polish for sinks; and a grease solvent for traps and drain pipes. The 19-lb kit is packaged in a fiberboard carrying carton with enough supplies for 90 days maintenance of the average washroom. Price is $9.75. • **Plunkett Chemical Co.**, 3500 S. Morgan St., Chicago 9, Ill.

For more details circle NED-957 L1 on enclosed inquiry slip

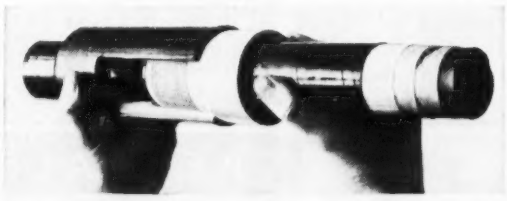
TWO-PART EPOXY ADHESIVE
applicable by spray equipment

Bonding of either metallic or nonmetallic face materials to such core materials as Styrofoam, urethane foams, paper honeycomb, epoxy foams, glass fiber bats, and wood is end use of Tygoweld 54 adhesive. The two-part modified epoxy material has a pot life sufficiently long to allow application by conventional pressure pot spray equipment. Operating temperature range is −32 to 200° F and tensile shear properties are in the 1300-psi range. Also applicable by high volume catalyst mixing spray equipment, it has other uses in concrete floor coating, bonding of wet concrete to old concrete, and bonding ornamentation to cinder or concrete block. Cost is about 0.7 cent for square foot per mil of thickness. • **United States Stoneware Co.**, Adhesives Div., Box 624, Stow, Ohio.

For more details circle NED-958 L1 on enclosed inquiry slip

PLASTIC PIPE
for up to 500-psi, 250° F petroleum, salt-water service

Consisting of a glass fiber reinforced core cured with and protected by a nitrile rubber-polyvinyl chloride cover and liner, this plastic pipe can be used for cor-



rosive, high-pressure service in petroleum, salt water, and water flooding applications. Filament-wound glass fibers of core are bonded by butadiene-styrene resin.

Pipe has 500-psi operating pressure at 80° F, with maximum operating temperature of 250° F. Yield strength is at 4000 psi, although actual burst pressures go as high as 5800 psi. Pipe does not develop "weeping" cracks due to rough handling or accidental operation at excessive pressures.

Pipe is produced in 2-in. size, with 3 and 4-in. sizes to be available. It is supplied in 20-ft lengths with factory applied male and female API EUE 8 rd. threads at either end. A 1500-psi working pressure version is also anticipated. **Spiral-Glas Pipe Co.**, Old Bridge, N. J.

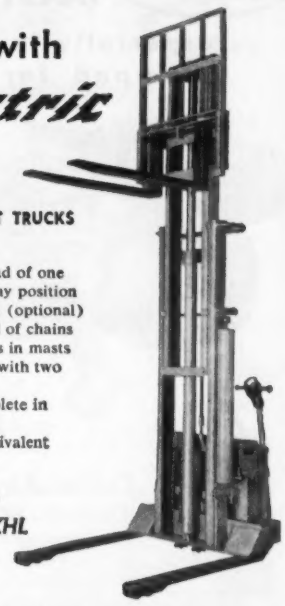
For more details circle NED-959 L1 on enclosed inquiry slip

INSULATING COATING
for up to 300° C electronic use

Single-component HumiSeal 1C40 insulating coating for electronic uses resists temperatures up to 300° C. It resists abrasion, weather, and chemical solvents, has excellent adhesion, and meets fungusproof specifications of MIL-E-005272B. Used for coils and wire assemblies, product is cured for 1 hr at 250° F, then for 1 hr at 500° F. Shelf life at room temperature is 60 days. Dielectric strength is 1500 v per mil. • **Columbia Technical Corp.**, 24-30 Brooklyn-Queens Expressway W., Woodside 77, N. Y.

For more details circle NED-960 L1 on enclosed inquiry slip

modernize with
HydroLectric



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- Two driving wheels instead of one
- Braking with handle in any position
- Automatic parking brake (optional)
- Sealed alloy gears instead of chains
- Sealed ball-bearing rollers in masts
- 100% more steering ease with two wheel drive
- Power unit removal complete in 20 minutes
- Greater tire capacity equivalent load ratings

LIFT TRUCKS INC. W.W.W. STUEBING CINCINNATI

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A TRUCK FOR EVERY PURPOSE AND MATERIAL

LIFT TRUCKS, INC.
CINCINNATI 14, OHIO

For more details circle NED-961 L1 on enclosed inquiry slip

RENFROE LINE

STEEL LIFTING CLAMPS

- 14 different designs
- ½ Ton to 20 Ton Capacity
- 5 to 1 Safety factor
- All clamps safety tested
- 3 to 1 before shipment

Special design clamps available on request

Safety Snap Lock

Write for Renfroe catalogue

J. C. RENFROE & SONS, INC.
1926 SPEARING ST. • JACKSONVILLE, FLORIDA

For more details circle NED-962 L1 on enclosed inquiry slip

At Last... Positive Protection Against Paint Spray

with the New FLEX-A-PRENE® PAINT MASK

New Efficiency
The sensational new FLEX-A-PRENE Paint Mask keeps out paint pigments and solvents with amazing efficiency, yet it's light (just 1 ounce), comfortable and so easy to talk and breathe through you hardly know you're wearing it.

New Economy
FLEX-A-PRENE's low first cost is only part of the story. Most important savings come from its endurance in service and time saved through less frequent filter replacements. You can expect at least 100 hours of exposure before filter replacement is necessary.

Sample: $1.50 postpaid
(INDUSTRIAL PRICE ONLY)

FLEXO Products, Inc. Westlake, Ohio

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David Round **HOISTING EFFICIENCY**

...especially in work areas cramped for headroom

MODEL 55 CABLE TYPE ELECTRIC Hoist and Trolley

Write for Bulletin 119-EH

Cable-Aire **PNEUMATIC HOIST**

Meets requirements for operation in hazardous atmospheres

Write for Bulletin 300-CA

Order from your Distributor

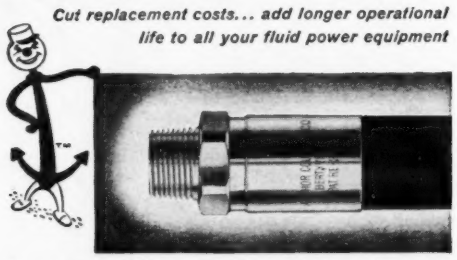
Chain Hoists • Electric and Air Hoists & Winches
Cranes • Sheaves and Chain

DAVID ROUND & SON, INC., CLEVELAND 39, OHIO

For more details circle **NED-964 L1** on enclosed inquiry slip

NO LEAKS or BLOW-OFFS with ANCHOR PRESSED-ON HYDRAULIC HOSE ASSEMBLIES

Cut replacement costs... add longer operational life to all your fluid power equipment



Anchor's complete line of Pressed-On Hydraulic Hose Assemblies . . . the "standard" for original equipment because of their superior, time-tested and performance - proven features . . . gives you positive assurance against leaks or blow-offs for the life of the hose.

Whatever the fluid power application—high, medium, low pressures . . . suction . . . special purpose . . . Anchor Pressed-On Hydraulic Hose Assemblies are available with thread sizes to meet practically all your replacement requirements.

Your nearest Anchor distributor will show you the many "built-in" features of Anchor Pressed-On Hydraulic Hose Assemblies . . . Anchor's "Pledge of Performance" guarantees their replacement worth.

Andy Anchor says: "Your Anchor distributor can give you detailed information on Pressed-On Hydraulic Hose Assemblies to meet your applications . . . or write direct."

ANCHOR Coupling Co. Inc.

Box 111, Dept. SS, Libertyville, Ill.
Branch Plants: Dallas, Tex., Plymouth, Mich.

For more details circle **NED-965 L1** on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Industrial Photography Handbook

Second edition of the "Kodak Industrial Handbook" contains these four basic data books: "How to Organize and Operate Photographic Service Departments," "Making Service Pictures for Industry," "Industrial Motion Pictures," and "Photographic Production of Slides and Filmstrips." It is available for $5 from **Eastman Kodak Co.**, Sales Service Div., 343 State St., Rochester 4, N. Y.

For more details circle **NED-967 L1** on enclosed inquiry slip

Indicators & Recorders

FREE Minneapolis-Honeywell Regulator Co., Industrial Div.—Available specification Bulletins S1004-1, -2, and -3 respectively describe PneumatiK Tel-O-Set indicators and recorders without control, recording and indicating control stations, and recording and indicating control stations for cascade control. Instruments feature automatic switching with no matching of any pressures, plus simple accessible zero and damping adjustments.

For more details circle **NED-968 L1** on enclosed inquiry slip

Properties of Polycarbonate Resin

FREE General Electric Co., Chemical Materials Dept.—Technical data on electrical and physical properties and descriptions of typical applications are found in 8-page illustrated brochure on Lexan polycarbonate resin. Also covered are advantages of its use in electrical and electronic components.

For more details circle **NED-969 L1** on enclosed inquiry slip

Constant Force Springs

FREE Hunter Spring Co.—Detailed design information on Neg'ator constant force extension springs is found in a series of data sheets. Step-by-step design data, characteristics, mounting considerations, and application limitations are covered. Ten pages include line drawings and charts.

For more details circle **NED-970 L1** on enclosed inquiry slip

Encapsulation of Motor Windings

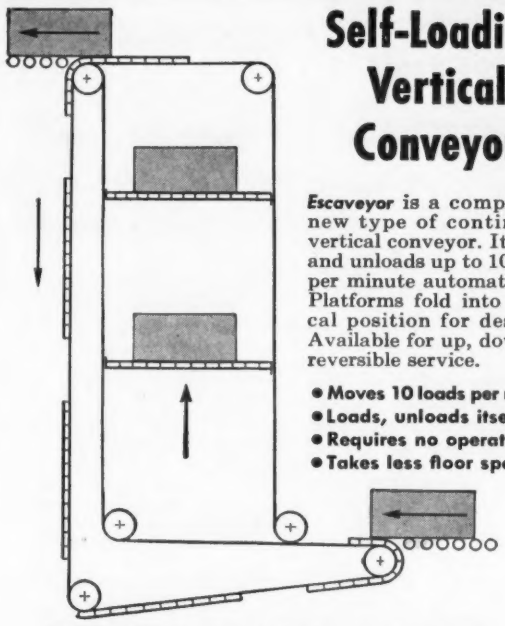
FREE U. S. Electrical Motors Inc.—Tests on motors using solid-cast Everseal encapsulation for protection of windings against severe environmental conditions are presented in 8-page Bulletin F2034. Process is offered on windings of all types of U. S. motors with random-wound coils up to 125 hp, 1800 rpm.

For more details circle **NED-971 L1** on enclosed inquiry slip

Mechanical Differentials

FREE Dynamic Gear Co.—Twenty-seven drawings of stock and pre-engineered precision mechanical differentials are included in Brochure 8101. It also contains general information on differentials and design criteria. Differentials are designed for moderate loads found in instrument systems.

For more details circle **NED-972 L1** on enclosed inquiry slip



Self-Loading Vertical Conveyor

Escaveyor is a completely new type of continuous vertical conveyor. It loads and unloads up to 10 units per minute automatically. Platforms fold into vertical position for descent. Available for up, down, or reversible service.

- Moves 10 loads per minute
- Loads, unloads itself
- Requires no operator
- Takes less floor space

WRITE TODAY *for descriptive brochure with performance data, drawings, photos of actual installations. Standard Conveyor Co., 310-L Second St., N. St. Paul, Minn.*

Standard Conveyor Sales and Service in more than 40 Principal Cities

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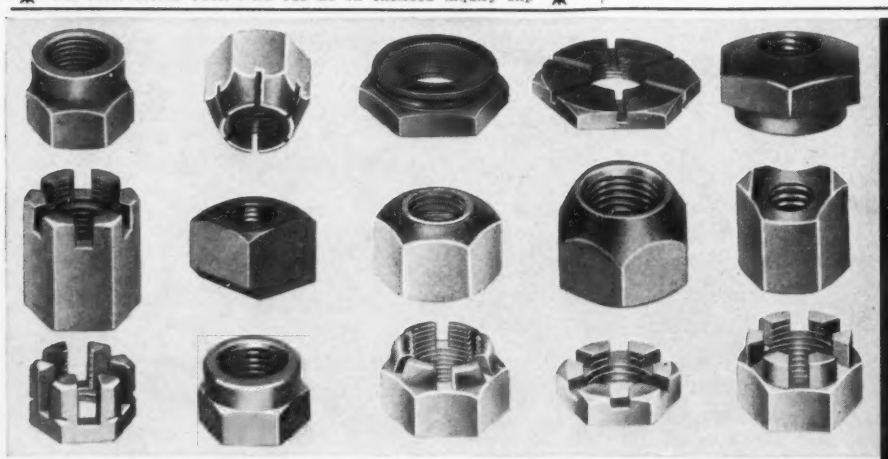
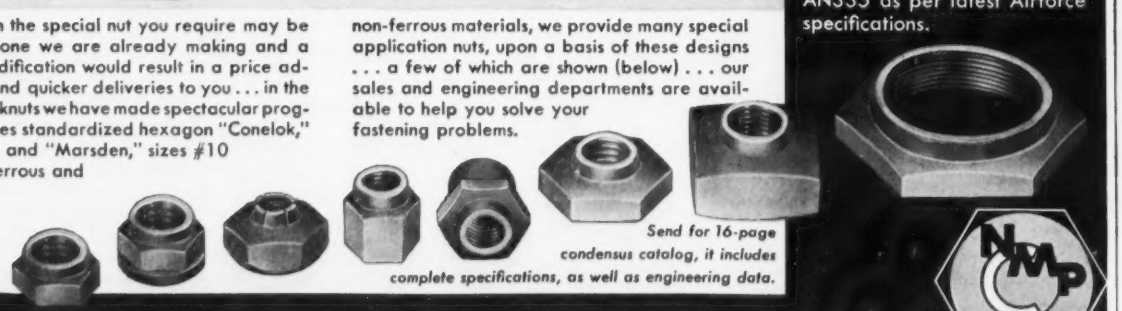


SPECIALS

7/16" — 4 1/4" across flats

As the largest specialized nut manufacturer in the world we are constantly developing new methods and products for this phase of assembly in industry. Our batteries of special high speed multi-spindle, automatic machines make possible fast and accurate production of hexagon nuts of non-standard height and special shape from carbon or alloy steel, Naval Bronze or other non-ferrous metals, also AN310 through AN335 as per latest Airforce specifications.

Very often the special nut you require may be similar to one we are already making and a simple modification would result in a price advantage and quicker deliveries to you . . . in the field of locknuts we have made spectacular progress. Besides standardized hexagon "Conelok," "Huglock" and "Marsden," sizes #10 to 3" of ferrous and non-ferrous materials, we provide many special application nuts, upon a basis of these designs . . . a few of which are shown (below) . . . our sales and engineering departments are available to help you solve your fastening problems.



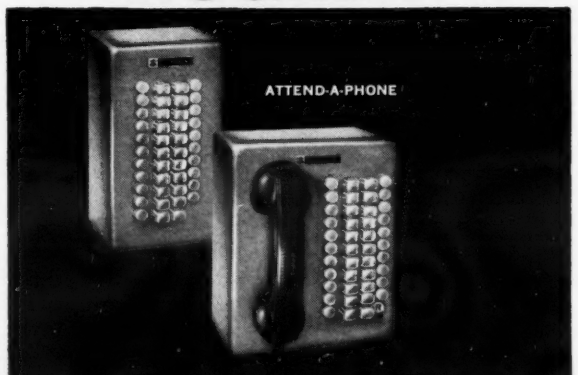
Send for 16-page condensus catalog, it includes complete specifications, as well as engineering data.

NATIONAL MACHINE PRODUCTS COMPANY

an SPS company 44250 UTICA ROAD UTICA, MICHIGAN

For more details circle **NED-966 L1** on enclosed inquiry slip

INSTANT COMMUNICATIONS THROUGHOUT YOUR PLANT... BOGEN!



New modular design system with Central Master, Remotes and Add-On Expansion Boards. A vital aid for providing fast communications service to the active areas of your plant without tying up operators or switchboards. Low cost installation, push-button ease, excellent intelligibility, handsome styling and the flexibility of simple adaption for plant-wide paging . . . the BOGEN TQA-21 Attend-A-Phone and XQA-21 Expansion Board.

Instant communication with the advanced design two station intercom—the BOGEN Twin-Com. Perfect for "busy point" communications . . . warehouse to shipping, plant manager to floor foreman, etc. Simple installation, negligible maintenance, sensitive pick-up, life-like voice reproduction . . . the lightweight, rugged BOGEN Twin-Com.

BOGEN Communications Systems are certified by 30 years of leadership in the design of quality sound products. You own them . . . no monthly charges. There is an efficient intercom, telephone, paging, or P.A. system designed for your plant. Write today for full details.

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Desk ND-11 • Paramus, N. J. • A Division of The Siegler Corporation

For more details circle **NED-974 L1** on enclosed inquiry slip

NEW MATERIAL FROM PFAUDLER

HANDLES CORROSIVES AT VERY HIGH TEMPERATURES

Here's a practical way to cope with a broad range of corrosives in the 500° to 1500°F temperature range.

It's Pfaudler® Nucerite,* a recently developed family of ceramic-metal composites with exceptional resistance to vapor-phase corrosion.

Available in many formulations, Nucerite also exhibits excellent resistance to impact, abrasion and thermal shock. Now in limited commercial production, Nucerite has been fabricated into such equipment as immersion heaters, pipe, columns and vessels.

Considerable data from both lab and field tests is available for evaluating Nucerite in specific applications. Write to: Pfaudler Division, Dept. NED-111, Rochester 3, N. Y. for Bulletin 999. *Patent applied for

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS . . . the science of fluid processes

For more details circle NED-975 L1 on enclosed inquiry slip

Core Hardest Masonry

Core Any Masonry Material At Lower Costs

HOFFMAN MASONRY CORE BITS

Each Hoffman Bit is engineered for the specific job . . . coring steel reinforced concrete, granite, marble, fused quartz, asphalt, Zac block, tile, etc. Assures you of long, accurate drilling at high speeds . . . cuts your masonry coring investment to a fraction of that required with conventional tools.

Write for catalogue and prices—FREE.

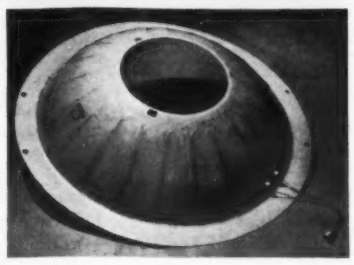
Diamond Tool Experts Since 1902

HOFFMAN BROS. DRILLING CO.
106 Cedar St. Punxsutawney, Penna.

For more details circle NED-976 L1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

REINFORCED PLASTIC PARTS have embedded heating elements



Molded reinforced plastic parts are now available with molded-in electric heating elements that are permanently aligned and protected within the part. Illustrated 28-in. diameter missile heater dome is typical of parts which have a high strength-to-weight ratio, good impact resistance, and good electrical insulation. Parts withstand vibration and shock in use, since the heating elements cannot loosen. Temperatures as high as 600° F can be attained without lamination separation. • **Bischoff Chemical Corp.**, Riverside Plastics Div., 220 Miller Rd., Hicksville, N. Y.

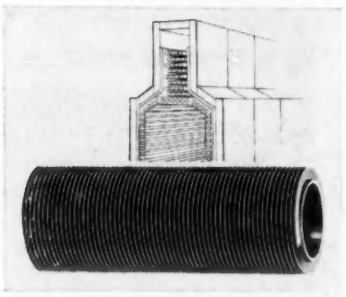
For more details circle NED-978 L1 on enclosed inquiry slip

FABRIC MENDING ADHESIVE applied by brush or roller coater

Strong, flexible bond that will resist washing, boiling, and dry cleaning is formed by Patchstix, a fast drying adhesive for permanently mending cotton, wool, nylon, leatherette, canvas, and other fabrics. Only one surface need be coated by brush or roller coater and brought into contact with the second surface. Adhesive is nonflammable and will not stain or penetrate fabrics. It is packaged in 1, 5, and 55-gal containers. • **Adhesive Products Corp.**, 1660 Boone Ave., New York 60, N. Y.

For more details circle NED-979 L1 on enclosed inquiry slip

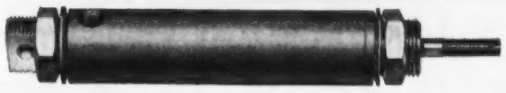
FIN TUBE & PIPE 1 to 6-in. diameters available



Maximum efficiency of processing furnaces, waste heat boilers, tanks, and other fired and unfired applications are realized by use of large diameter K-Fit tube and pipe. Helical fins are wrapped tightly into external grooves to provide 10 or more times the outside surface area per foot of length than plain bare tube or pipe. Carbon steel, stainless steel, or alloy fins are available on pipe or tube of the same materials. Diameters from 1 to 6 in. can have from two to eight fins per inch. • **Griscom-Russell Co.**, 185 Wetmore Ave. S.E., Massillon, Ohio.

For more details circle NED-980 L1 on enclosed inquiry slip

NEW HEAVY DUTY 7/8" BORE MINIATURE CYLINDERS



Double Acting and Spring Return

Maximum Pressure 250 psi AIR — 2500 psi HYDRAULIC, NON-SHOCK

• Now, a rugged, extra powerful miniature cylinder with all the features desired by designers! Ideal for automation equipment, jigs and fixtures where extra speed and stamina is called for and savings in space, air and cost are necessary. COMPACT: space-saving screw-together construction. INTERNAL CUSHIONS: of resilient Buna-N reduce shock and noise 80%. MOUNTS: Clevis rear, stud front or rear, or foot. ALL PARTS & SEALS: replaceable. PORTS: standard ⅛" NPT on side. TUBES: brass. RODS: high carbon steel, hard chrome plated. SHAFT BUSHINGS: Sintered bronze.

Six STANDARD STROKES available.

Clippard Minimatics

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Clippard INSTRUMENT LABORATORY, INC.
7378 Colerain Rd., Cincinnati 39, O. • Phone: JAckson 1-4261
Manufacturers of Miniature Pneumatic Devices, R.F. Coils, Electronic Equipment

For more details circle NED-981 L1 on enclosed inquiry slip

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BARE ROLLS

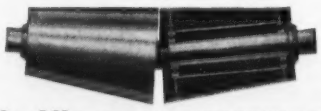
Extremely wide range of sizes, types, and materials of construction. Unsurpassed service and economy for continuous processing of ferrous and non-ferrous strip and all product handling applications.

RUBBER COVERED ROLLS

Any type or size of roll, covered with any durometer, color or thickness of rubber to increase the co-efficient of friction, for chemical resistance, or to prevent marking the product being handled.

PLASTIC COVERED ROLLS

Any type or size of roll, covered with any thickness, of NEMA grade plastic, to prevent marking the product being handled, increase the co-efficient of friction, the chemical resistance, or heat and electrical insulation.



Lorig-Aligner SELF-CENTERING ROLLS
TRADE MARK

Designers, engineers and fabricators of all types and sizes of **Lorig-Aligner** Self-Centering Rolls including Type I, Type II, Type III, Type IV and Narrow Bodied Rolls. The world's largest Type I **Lorig-Aligner** Roll, 60" dia. x 84" face, was built in our plant.

EXPERIENCED ENGINEERING HELP IN
Tracking and Aligning
Ferrous, Non-Ferrous and Alloy Strip; Rubber, Wire Mesh, Fabric and Metal Belts; Paper, Foil and Plastic Webs.
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BARCLAY ROLLS

Write for Bulletin No. 601 Today! It gives full details.

BARCLAY MACHINE, Inc.
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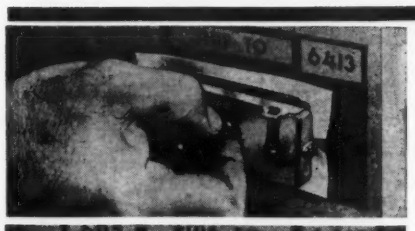
For more details circle NED-982 L1 on enclosed inquiry slip



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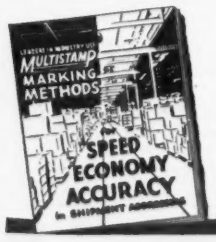
Multistamp® Stencil Addressing System Quickest Way for Volume Shipping

Using Multistamp FORM-CUT stencil, printing the form and fill-in data at the same time is an easy, one man—one hand—operation. Your form is custom die-cut in the stencils . . you fill them in with ball point pen or typewriter.



VOLUME-PAK Stencils
both plain and FORM-CUT save big money for quantity users. One-day service on repeat FORM-CUT stencil orders . . less than 10 days on new orders.

Write Today for your Free copy of the illustrated new how-to- (and why) book about the MULTISTAMP Marking Methods.

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THE MULTISTAMP CO. NORFOLK, VA.

For more details circle NED-977 L1 on enclosed inquiry slip

PARENT METAL PRODUCTS Philadelphia Penna QUALITY

Locker Base Work Benches

Solve your storage problems with this Quality S Locker Base Work Bench by PARENT. Perfect to store tools, tool boxes and personal belongings, keeping work surface clear. Other benches are made with additional base lockers and with tops ranging from 5' to 12' in length. Cabinet Base, Leg Base and Stake Base Benches are also available.

No. 72-24-408B is 72" long, 24" deep, 32¾" high with laminated maple top and all steel base.

No. 603-S

Before purchasing bench equipment, check the complete line of PARENT Quality Work Benches. There is one made exactly for you . . . and for your pocket. So when ordering, specify the very finest in Industrial Equipment . . . Equipment by PARENT.

Get a FREE CATALOG covering the most complete line of work benches on the market. Send for your copy TODAY.

PARENT METAL PRODUCTS INCORPORATED

6801 State Rd. • DEPT. N111 • Philadelphia 35, Pa.

For more details circle NED-987 L1 on enclosed inquiry slip

HERE'S HOW TO SAVE TIME • MONEY and TROUBLE on Industrial Rubber

• COMPOUNDING
• MOLDING

If you fabricate with rubber or silicone rubber parts, or need assistance in development of special rubber compounds, investigate the advantages of using the specialized rubber compounding and molding service made available by the Colonial Rubber Company.

The full story of our long experience in industrial rubber development and production, and full details on our research laboratories, die-making facilities and rubber production plant is told in our 16-page brochure. Write for it today and read how Colonial is able to save time, money and trouble on rubber parts development and production. 1968

COLONIAL RUBBER CO. RAVENNA, OHIO

For more details circle NED-988 L1 on enclosed inquiry slip

BEVERLY Electric THROATLESS SHEAR

Cuts Any Shape in Metal Easily, at High Speed

Provides 1725 cutting strokes per minute . . . correct speed to handle cutting, trimming and slitting operations in any metal to shear's capacity. Unique downward-forward shearing action provides faster, cleaner cutting; insures longer blade life. Operator's hands are free to feed and guide work through shear—permits accurate cutting to a line or template. Throatless design allows sheet to be turned in any direction during cut. Motor operates on 110V., 60 cycles, AC.

Slits 14 ga. mild steel at 15 ft. per minute. Cuts lighter gauges proportionately faster.

Complete with base and supporting column to provide most efficient and comfortable working height from floor. Can be used with base only as bench shear.

See your nearby Beverly Distributor for a demonstration or write today for illustrated circular.

BEVERLY SHEAR MFG. CO.
3016 W. 111th Street
Chicago 43, Ill.

For more details circle NED-989 L1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Trimmer Capacitors

FREE Erie Resistor Corp.—Trimacon trimmer capacitors described in 16-page Bulletin 314-3 include a miniature ceramic unit measuring only ¾ in. in diameter for printed circuit mounting. It is horizontally adjustable. Also covered are glass Trimacons for panel and printed circuit mounting and several ceramic types.

For more details circle NED-990 L1 on enclosed inquiry slip

Liquid Level Switches

FREE Robertshaw-Fulton Controls Co., Fulton Sylphon Div.—LevelAc liquid level switches described in 12-page Brochure SF-765 employ stationary ceramic magnets completely surrounding a sealing tube inside which a magnetic shunt moves in response to liquid level fluctuations. As many as eight separate electrical circuits are possible from a single instrument.

For more details circle NED-991 L1 on enclosed inquiry slip

Industrial Maintenance Products

FREE Fibre Glass-Evercoat Co.—Polyester, epoxy resins, and glass fiber materials used in industrial maintenance are detailed in 44-page catalog. They include floor surfacing and patching materials for concrete, wood, and composition floors; reinforced protective linings for tanks and stacks; plastic grouting mortar; concrete adhesive; epoxy contact adhesive; and epoxy and vinyl coatings.

For more details circle NED-992 L1 on enclosed inquiry slip

Metallic Power Rectifiers

Revised guide to Semiconductor power rectifiers has been expanded into two volumes, Industrial and Plating. The 56-pages of literature describe units for every ac to dc application, including anodizing, aircraft ground power supplies, battery chargers, capacitor manufacturing, current limiting, electrochemical processing, relay testing, shop power supplies and complete semiconductor conversion systems for operation of electrolytic cells. Which volume desired should be indicated on letterhead request to **Meaker Co.**, 75 River Rd., Nutley 10, N. J.

For more details circle NED-993 L1 on enclosed inquiry slip

Structural Steels

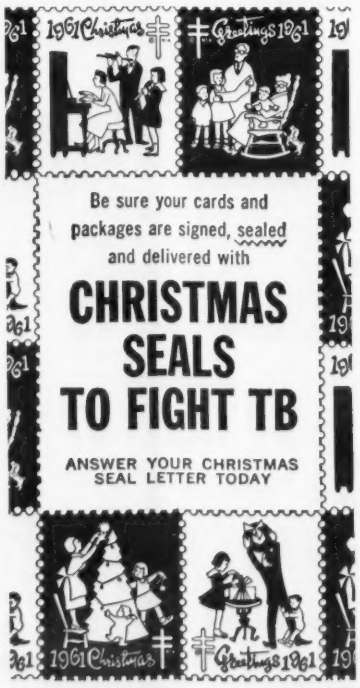
FREE U. S. Steel Corp.—28-page booklet "New Steels . . . New Shapes . . . New Concepts" provides technical data and ideas arranged as a compact guide for those who design, fabricate, and build with structural steels. Facts cover carbon, high strength, low alloy, and heat treated alloy steels. A section is devoted to eleven new wide-flange beam sections now available.

For more details circle NED-994 L1 on enclosed inquiry slip

Arc Welding Accessories

FREE Tweco Products, Inc.—Electrode holders, ground clamps, cable connectors, lugs, and splicers are among arc welding machine accessories listed in 12-page No. 13 Twecolog. Products feature the Ball-Point cable connection which allows efficient cable connections to be made anywhere in 2 min with a 7/32-in. hex wrench.

For more details circle NED-995 L1 on enclosed inquiry slip



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1/ They'll never need oiling! (Thanks to Wilton's lifetime lubrication)

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3/ They deliver greatest locking force! (Fine machining is the secret)

To get the most vise value for every dollar always specify WILTON . . because the best costs no more!

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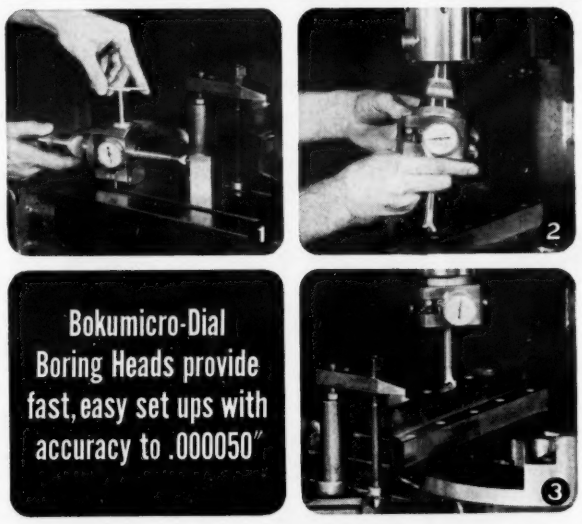
NED-111

WILTON TOOL MANUFACTURING CO., INC. / 9525 Irving Park Road / Schiller Park, Illinois
CANADIAN ADDRESS: 178 NORSEMAN ST., TORONTO, ONTARIO

For more details circle NED-996 L1 on enclosed inquiry slip



Bokumicro-Dial Boring Heads provide fast, easy set ups with accuracy to .000050"

Bokumicro-Dial Boring Heads reduce set-up time to a minimum and provide toolroom accuracy at the same time.

Picture (1) shows how simply by inserting and turning the key, the operator presets the boring tool to rough dimension from gage blocks. (2) The Bokumicro-Dial Boring Head and fast cutting Bokum Boring Tool are inserted into a DeVlieg Flash-Change Adapter. (3) Tool is now ready to make rough bore.

Tool settings as close as .000050" are easily obtained on the final setting with the use of the built-in dial indicator which by-passes backlash. While holder is still in the machine and by watching the .0001" indicator, the operator can set the tool movement precisely to .000050". No lock-up screws are used, thus no clamping errors can occur.

Bokumicro-Dial Boring Heads can be supplied with any type of drive shank and are available for ⅜" and ½" diameter shank boring tools. Order today!

BOKUM TOOL COMPANY, INC.
14775 WILDEMERE AVENUE • DETROIT 38, MICHIGAN

For more details circle NED-997 L1 on enclosed inquiry slip

plugging-in EAGLE'S NEW CYCL-FLEX COUNTER as simple as

Yes, Eagle's New Cycl-Flex Plug-In Counter is as easy to adapt and change as its companion Cycl-Flex Timer. In fact, in mounting and in over-all appearance, they're exactly the same.

The New Cycl-Flex Counter does more than just count. A large variety of control circuits are yours by utilizing its one instantaneous switch and two delayed switches to control your machines or processes.

Write for Bulletin 725 or call your local Eagle Representative. He's listed in Sweet's Product Design File, Section 7d or in Thomas Register.

SPECIFICATIONS • Count Range — 60 counts • Electric Reset in ⅓ second • 400 counts per minute • 3-inch diameter quick setting dial with single knob • Switch rating — 10 amps., 115 v., 60 cycle

EAGLE SIGNAL COMPANY • Moline, Illinois
INDUSTRIAL DIVISION
A DIVISION OF THE GAMEWELL COMPANY, AN E.W. BLISS COMPANY SUBSIDIARY

For more details circle NED-998 L1 on enclosed inquiry slip

FILTERS air to protect costly tools
REGULATES air pressure to exact needs
LUBRICATES moving parts to cut wear

When you design with air, start each circuit with a Schrader Lub-Air-Ator to keep valuable equipment running at peak efficiency. This important maintenance device lengthens equipment life. You can use one, two, or all three sections, individually or in combination. Compact. No moving parts. Can be serviced without disturbing pipe connections. Specification literature on request.

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Division of Scovill Manufacturing Co., Inc.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR PRODUCTS

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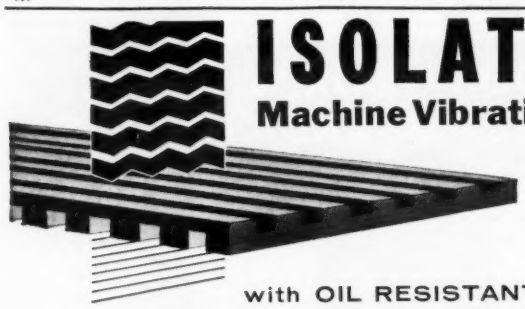


ISOLATE
Machine Vibration

with OIL RESISTANT

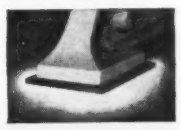
ISOMODE® Pads

- STOP transmission of machine vibration • REDUCE noise
- ELIMINATE need to anchor machinery • CUT cost of re-locating machinery

Durable oil-resistant DuPont *Neoprene*. Patented cross-rib design. Eliminate need to bolt down machines. Provide *flexible plant layout*. Cut cost of installation, relocation. One 18" x 18" pad 5/16" thick isolates up to 8½ tons of machine tools, when loaded to 50 psi.

Send for details of one-pad trial offer at discount price — and free technical literature. Or contact your nearest representative for personal analysis of your specific vibration problem.

Complete Line of Products For Vibration Isolation



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DIVISION MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1066 STATE STREET, NEW HAVEN 11, CONN.

For more details circle NED-1000 L1 on enclosed inquiry slip

NEW MATERIALS AND PROCESSES

JUNCTION BOX ADHESIVE
is improved two-part epoxy type

Packaged in a compartmented cup, improved Permacel PA 1041 two-part epoxy adhesive mounts electrical junction boxes to masonry, wood, or metal surfaces. Each cup contains enough of the nonburning adhesive to mount ten 4 x 4-in. boxes. Adhesive is waterproof, weatherproof, and resistant to acids and alkalies and will not harden in the cup for over 1 yr. When cured, bond strength reportedly is stronger than the wall itself. • **Permacel**, New Brunswick, N. J.

For more details circle NED-1002 L1 on enclosed inquiry slip

ALKALINE SOLVENT
removes rust, paint, oil, grease

Ability to penetrate into blind holes and between adjacent flat surfaces is inherent in Endox L-76 alkaline solvent. A nonflammable liquid combination of solvents, chelating agents, and strong alkalis, it removes rust, oil, grease, paint, and shop soil in one operation. Uses include soak cleaning of oily or rusty steel prior to phosphating, blackening, or painting; removing tarnish and soil from copper and brass; removing heat scale; and removing baked synthetic enamels from steel, copper, brass, and magnesium. Surface is left clean and ready for subsequent processing. Product is used at full strength from 170 to 220° F. Work is immersed in the hot bath until clean; 1 to 5 min for cleaning or 5 to 15 min for removing heavy rust, grease, and paint. • **Enthone Inc.**, 442 Elm St., New Haven 8, Conn.

For more details circle NED-1003 L1 on enclosed inquiry slip

CORROSION PENETRANT
also deposits a protective film

Multipurpose CML-260 penetrant not only breaks through rust, corrosion, scale, and dirt to free bolts and seized parts, but deposits a molecular film to prevent further corrosion. Compound will remove moisture from distributors, ignition wires, spark plugs, and other electrical parts to minimize shorting. It has good lubricating qualities and will not harm rubber. Twelve-ounce aerosol spray cans and 1-gal can are available. • **Kendall Refining Co.**, Bradford, Pa.

For more details circle NED-1004 L1 on enclosed inquiry slip

NEW!

R W TOTA TRAY TRADEMARK

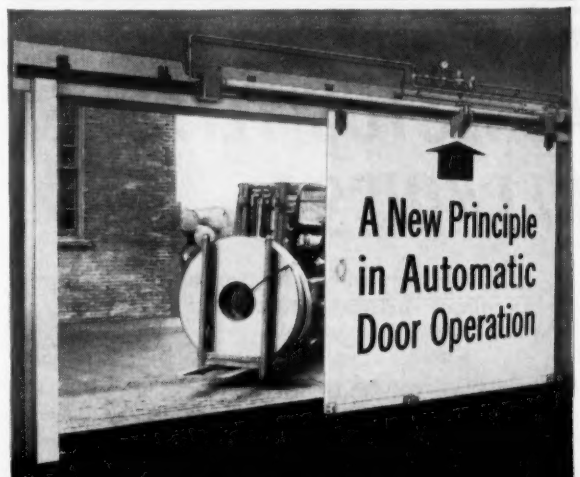
FLOOR-TYPE
CAROUSEL CONVEYORS

...provide major cost reductions on the production line!

Modular design (three basic interchangeable components) permits specification of length, height and speed . . . precision end articulation for fast turning action . . . no "bulbing" . . . saves time . . . saves space. TOTA TRAY Conveyors can be utilized for continuous flow production lines, for sub or final assembly operations, for testing and repair lines, for selective order packaging, plus many other applications. Also adaptable for direct tie-in with R-W Overhead Conveyor Systems. Write for complete information . . . request your copy of Catalog No. A-580.

RICHARDS-WILCOX MFG. CO.
435 W. THIRD STREET • AURORA, ILLINOIS • Branches in all Principal Cities

For more details circle NED-1005 L1 on enclosed inquiry slip



New, STANLEY Low-Cost pneumatic door operator . . .

now makes all these profit-building advantages of automatic door operation available for most doors in your plant –

- big return on your investment through controlled traffic flow
- faster materials handling
- reduced damage and maintenance costs
- increased production
- improved control of temperature and humidity at lower cost
- effective area separation or isolation *without* slowing materials flow

Priced lower than any other automatic door equipment with complete control of door at all times, the new Stanley low-cost Pneumatic Door Operator now makes it economically easy for you to apply this unit to many doors in your plant where automatic operation can help you cut costs and speed flow of materials! Simple to install, it is pneumatically powered and can be operated from your regular plant air lines. Virtually no maintenance is required; all adjustments and repairs are extremely simple. Opening and closing motion is positively controlled through the entire operating cycle. This operator can be actuated by push button, pull cord, kick plate, floor plate or photoelectric. Speed of opening and closing is easily adjusted to suit your specific requirements.

The Stanley low-cost pneumatic Door Operator is supplied for single sliding doors up to 6 ft. in width and 300 lbs. in weight. Write today for complete information and see how this low-cost Pneumatic Door Operator can provide the cost-cutting high-performance answer to your automatic door operating requirements.

MAGIC-DOOR SALES
Stanley Hardware, Division of The Stanley Works,
Dept. K, 58 Lake Street, New Britain, Connecticut

STANLEY
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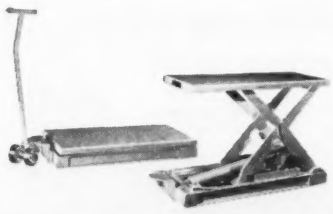
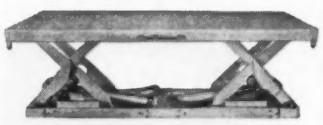
For more details circle NED-1006 L1 on enclosed inquiry slip

FROM SKID LEVEL UP UP UP **TO WHATEVER WORKING HEIGHT YOU WANT**

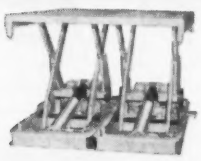
THE EASY WAY



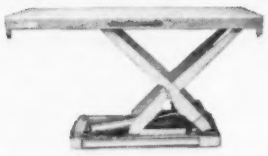
Series L — Average Loads
Portable models slide readily under standard skids. May be shifted from location to location as machine time and need warrant. No installation cost, simply plug in.
Capacities: 500–2,000–4,000–6,000 8,000–12,000 lbs.



Series LT — Long Loads
For fixed position at production equipment either on floor surface, or in shallow excavation with table top becoming an integral part of the floor. Longitudinal stability a feature.
Capacities: 1,000–4,000–8,000–12,000 16,000–24,000 lbs.



Series LD — Wide Loads
Designed to give exceptional lateral stability. Note that all models are completely self-contained, have no hampering superstructure, give free access to work load from all angles.
Capacities: 1,000–4,000–8,000–12,000 16,000–24,000 lbs.



Series LH — High Work Positions
A longer leg adaptation of Series L models, increasing the range of their extended heights to meet unusual requirements for lifting beyond normal work-positioning elevations.
Capacities: From 1,000–10,000 lbs. depending on rise.

In industry after industry, the Southworth Lift Table is cutting handling costs by providing an easy way of elevating skid or palletized loads to a correct working height for machine, process or assembly operations. The required lift may be in one stage from skid level to an established working level, as with dies, castings and fixtures, etc. Or it may entail frequent adjustment of stock height, as in sheet feeding, sorting and inspection. Either way, the lift desired is a mere matter of simple switch control.

Tables illustrated are basic models. Features common to all are a scissor-type mechanism that is rugged, compact and hydraulic powered; a hinged platform giving access to self-contained motor and pump assembly even in a totally collapsed position; low installation and maintenance costs; full and fool-proof automatic control. Southworth, nationally known as a manufacturer of precision equipment, also offers its engineering services to those wishing to adapt these Tables for specific applications.

For Further Details Write:
SOUTHWORTH MACHINE CO. since 1890
6111 WARREN AVENUE, PORTLAND, MAINE

For more details circle NED-1001 L1 on enclosed inquiry slip

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ZIPPER BAG
PRESTITE CLOSURE

Self Seal
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- AIRTITE
- WATERTITE
- IDEAL FOR PACKAGING

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R/M CAPABILITY PRODUCES

ASBESTOS-TEFLON* PACKINGS

with low breakaway friction and excellent resistance to most chemicals

R/M No. 840SW braided and "Teflon"-impregnated packing for valves and pumps eliminates the troubles normally associated with solvent-handling lines. It represents the most effective combination of materials for this kind of service — high grade asbestos and "Teflon."

Other R/M Asbestos-"Teflon" packings are available for application on systems handling weak and concentrated acids, corrosive fluids, and slurries.

Write for our new R/M Catalog P-100 containing complete information about R/M Mechanical Packings and Gasket Materials.

*Registered trademark for Du Pont fluorocarbon resins

RAYBESTOS-MANHATTAN, INC.
RM PACKINGS
PACKING DIVISION, PASSAIC, N.J.
MECHANICAL PACKINGS AND GASKET MATERIALS

For more details circle NED-1008 L1 on enclosed inquiry slip

The Standard of Excellence!

For design, utility, and service you can't beat VACO. The Comfordome handle and oil tempered chrome vanadium steel blade assure maximum convenience at low cost. The VACO name and unconditional guarantee assure finest workmanship.

Look for the VACO Vari-Board! Next time you need a screw driver, fit the driver to the screw by making your selection from a VACO Vari-Board. Your choice of up to 120 screw drivers at a glance!

NEW! VACO PLIERS! Now available in all popular styles and sizes. Made to VACO quality specifications.

VACO PRODUCTS COMPANY, 317 E. Ontario St., Chicago 11, Ill.
In Canada: Vaco-Lynn Products, Ltd., Montreal 1, Quebec

For more details circle NED-1009 L1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Shear Selection Packet

FREE Verson Allsteel Press Co.—Design details and specifications of redesigned Verson line of hydraulic shears are content of 4-page Bulletin VHS-61. Accompanying slide calculator simplifies computation of tonnage required to shear all commonly used metals.

For more details circle NED-1010 L1 on enclosed inquiry slip

Extensive Line of Shop Equipment

FREE American Pressed Steel Corp., Standard Equipment Div.—The 56-page illustrated 1962 catalog of industrial shop equipment covers an extensive line of products. Included are hand and platform trucks, carts, belt conveyors, drum lifts, hoists, handling trucks, casters, workbenches, chairs, signs, faucets, sinks, pumps, ovens, respirators, scales, desks, card files, and bins.

For more details circle NED-1011 L1 on enclosed inquiry slip

Wet Type Dust Collector

FREE Dust Suppression & Engineering Co.—Dust is separated from the air by centrifugal action in the Air Tumbler dust collector, while water wets and traps it. Dust is centrifuged through four helical revolutions of a horizontal barrel, then discharged. Lower section of the barrel contains water. Specifications and installation data are presented in 12-page illustrated Bulletin 601.

For more details circle NED-1012 L1 on enclosed inquiry slip

Manual Remote Valve Controls

FREE Stow Mfg. Co.—28-page illustrated design manual on valve remote control systems is divided into three sections: (1) flexible shafting used where a number of bends must be made, including valve couplings, remote operating terminals, and hand wheels; (2) standard rigid read rod controls; and (3) gear boxes including 90-degree gear box and 300-degree swivel geared joint. Specifications of all equipment are given.

For more details circle NED-1013 L1 on enclosed inquiry slip

Application of Gas Infrared Equipment

FREE Hupp Corp., Fannon Products Div.—Gas infrared equipment for preheating, moisture removal, paint baking, and curing uses is described in 8-page illustrated technical Catalog 31361. The Fannon-Schwank heater is discussed, as are the theory and application of infrared energy. Forty time and temperature relationships for various materials are shown. Heat is controllable from 1000 to 1850° F.

For more details circle NED-1014 L1 on enclosed inquiry slip

Fluid Filters

FREE Rosaen Filter Co.—How to choose a liquid filter and what factors must be controlled to assure the desired result are discussed in Tell Tale filter catalog. A composite selection chart is included, along with separate data sheets for each standard housing size. Sheets all carry flow curves.

For more details circle NED-1015 L1 on enclosed inquiry slip

Controlled Environment Equipment

FREE Electric Hotpack Co.—Controlled environmental equipment reviewed in 128-page catalog includes standard lab, pilot plant, and production ovens, plus water baths, furnaces, walk-in environmental rooms and chambers, incubators, sterilizers, temperature-humidity chambers, and optional instrumentation. New section covers test chambers up to 28 cu ft in capacity, with temperature range from −100 to 400° F (liquid CO_2 refrigerant).

For more details circle NED-1016 L1 on enclosed inquiry slip

Industrial Expositions

FREE Clapp & Poliak, Inc.—What do visitors want from exhibitors at industrial expositions? Results of an intensive study made of visitors' desires suggest nine major areas for improvement. These are summarized in a booklet entitled "What They Want," which then follows up with specific recommendations for improvement.

For more details circle NED-1017 L1 on enclosed inquiry slip

Fasteners—Nuts, Bolts, Screws, Etc.

FREE Albany Products Co.—Stainless steel, aluminum, brass, bronze, and Monel are used in the over 25,000 sizes, styles, and types of fasteners listed in 32-page illustrated Booklet 11. Over 200 different types of cap, machine, sheet metal, and wood screws, nuts, pins, bolts, set and thumb screws, studs, threaded rod, washers, and rivets are shown. Any male fastener can be given a Nylok lock.

For more details circle NED-1018 L1 on enclosed inquiry slip

EXCLUSIVE WITH CARTER

Rod Scraper Plus Rod Wiper in Cartridge Rod Bearing!
100% J.I.C. INTERCHANGEABLE CYLINDERS

SQUARELINE
COMPLETE LINE
AIR
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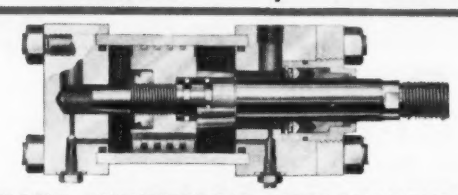

MANY ENGINEERING IMPROVEMENTS! LOWER PRICES!

- 1½ to 12" Bore Sizes
- Complete Range of Mounting Styles
- True Quick-Change Cartridge
- Self-aligning Truly Concentric Cushions
- Extra Heavy Construction
- Precision Engineered

ASK FOR SQUARELINE BULLETIN 3000 or complete bound file. Air and hydraulic cylinders. Rotaries, clamp cylinders, air valves, and the new SQUARELINE. Complete details and prices. SEND TODAY.

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TELETYPE LSNG, ILL. 1119

For more details circle NED-1019 L1 on enclosed inquiry slip

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PRICES
SHIPMENT SAME DAY

SINGLE CAN	$2.00
1 to 5 dozen	18.47 per doz.
6 to 11 dozen	17.54 per doz.
12 to 23 dozen	16.66 per doz.
24 doz. or more	15.00 per doz.

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PERC E. HARMS CO.
1739 Harding Road • Hillcrest 6-7244 • Northfield, Illinois
A complete line of INDUSTRIAL AEROSOLS

For more details circle NED-1020 L1 on enclosed inquiry slip

Get safe, maintenance-free plant heating with

Perkins AIRadiators operate on hot water or steam up to 150#. No motors, fans, or other moving parts that can cause sparking, or wear out—Perkins AIRadiators are maintenance-free, built to last the life of your plant. Heat is evenly distributed—quietly, without drafts or hot blasts.

Write for Bulletin V
. . . Learn how Perkins AIRadiators can give you better plant heating — at low cost.

SHAW PERKINS MFG. CO.
Properly Designed Room Heat Distribution Equipment
201 E. CARSON ST., PITTSBURGH 19, PENNA.

For more details circle NED-1021 L1 on enclosed inquiry slip

WRITE FOR BULLETIN N-5711

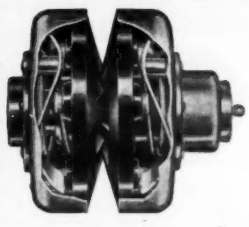
23880 LAKELAND BLVD. • CLEVELAND 23, OHIO

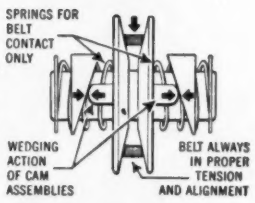
Zagar INCORPORATED

USE MORE SPINDLES TO DO MORE WORK

▲ For more details circle NED-1022 L1 on enclosed inquiry slip ▲

How HI-LO's Cam Control Gives Greater Vari-Speed Efficiency





1. Opposite wedging action of the exclusive patented cam and cam follower assemblies prevents pulley spread.
   Result: constant speed is maintained at all times, even under overload conditions.
2. Cam action also automatically compensates for tension and alignment.
   Result: belt is never under more tension than required by the load, always in proper alignment.
3. Springs are not driving members but serve only to keep pulley faces in contact with the belt.
   Result: smooth and steady transmission of power, belt is never subjected to excessive spring pressure and lasts longer.

Hi-Lo Pulleys described above are available in standard V-belt series from fractional to 5 hp. (1750 rpm.), ratios to 2.6 to 1 and in wide V-belt series from 1 to 5 hp. (1750 rpm.), ratios to 3 to 1.

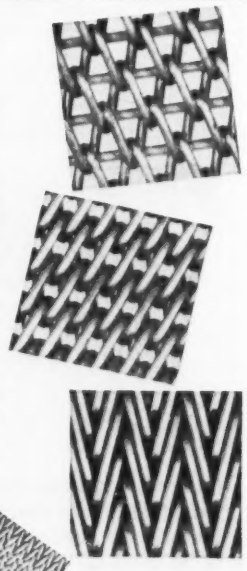
•

For full details on these and also Hi-Lo's economy and high ratio lines request Bulletin H-61 on company letterhead.

MANUFACTURED BY HI-LO MANUFACTURING COMPANY — AFFILIATE OF Lovejoy Flexible Coupling Co.

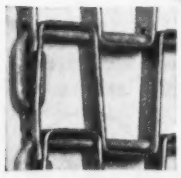
4953-H West Lake Street, Chicago 44, Illinois

THE "RIGHT" BELT WILL DO THE JOB BETTER!



No two product flow or processing problems are alike. No one belt design can meet all JOB requirements. Ashworth's manufacturing range covers many designs and many constructions in each design family.

Ashworth representatives are trained to develop the field data necessary to enable Ashworth engineers to recommend the "Right" belt for the JOB. Whatever your material flow problem during processing . . . consult an Ashworth representative.



Literature available, write to:

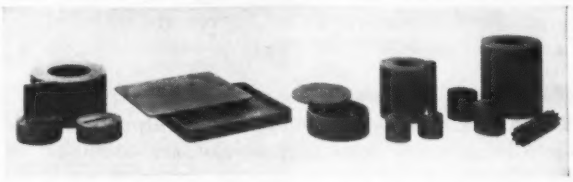
ASHWORTH BROS., INC.,
WINCHESTER, VIRGINIA
Sales Offices in Principal Cities

▲ For more details circle NED-1023 L1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

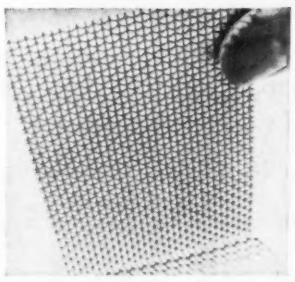
CUSTOM GRAPHITE PRODUCTS include crucibles, sintering trays

A diversified array of crucibles, sintering trays, hot-press molds, and other graphite products turned and milled from graphite plates, bars and rods are available on a custom-made basis, together with engineering and planning assistance. Products find use in the diamond wheel, powdered metal, and nuclear industries, and in component parts for electronic devices, semiconductors, instruments, missiles, timing devices, and aircraft, particularly where high temperatures are involved. They are made from graphite stock ranging in diameters up to 18 in. and in lengths up to 6 ft. • **Carbide Mold Service, Inc.**, Box 3111, Waterbury 5, Conn.



▲ For more details circle NED-1024 L1 on enclosed inquiry slip ▲

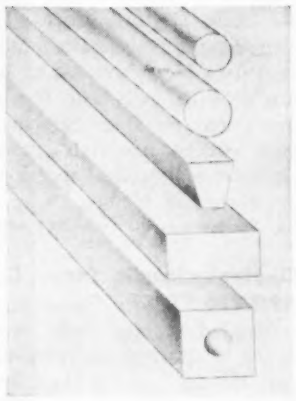
STAINLESS WIRE CLOTH for use in 600 to 1000° F range



Wire cloth woven of NS-A286 stainless steel alloy can be used in jet engine, gas turbine, and other applications where temperatures range to 1000° F. Parts made of this wire cloth alloy can be hardened after forming or fabricating, increasing tensile strength up to 73 per cent. Annealed wire with 103,500 psi tensile strength as drawn exhibits 176,000 psi tensile after 16 hr at 1350° F. Various meshes, wire sizes, and weaves are available. • **National-Standard Co.**, Dept. RDT, Niles, Mich.

▲ For more details circle NED-1025 L1 on enclosed inquiry slip ▲

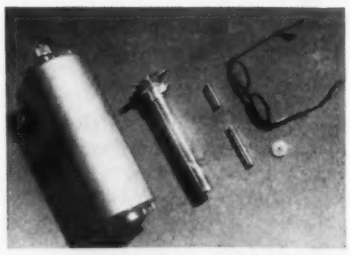
EXTRUDED WAX SHAPES for casting pattern assembly



High tensile strength and flexibility over a wide range of seasonal temperatures are exhibited by five extruded wax shapes for spruing and gating in investment casting pattern assembly. It provides easy pattern attachment and melts rapidly out of shell or monolithic molds. Wax is offered in 3/8 and 1/2-in. rounds, 3/4 x 3/4-in. cored squares, 1/4 x 1/2-in. wedges, and 1/2 x 1-in. solid rectangles, in standard 24-in. length. Sample package with twelve of each shape is available for $9.50. • **Alexander Saunders & Co.**, 95 Bedford St., New York 14, N. Y.

▲ For more details circle NED-1026 L1 on enclosed inquiry slip ▲

INFRARED DETECTORS feature wide response range



Everything from humans to rocket engines is within the detection capability range of this line of infrared heat detectors or seekers. They cover a band from 1 to 30 microns, and are offered in various packages using combinations of sensing materials and cooling techniques. Several types of windows are also available. Response ranges of nine types are 1 to 9, 1 to 15, 1 to 25, and 1 to 30 microns. Also offered is an infrared polarizer with 98 per cent polarization and a 4-micron and beyond response. • **Raytheon Co.**, Microwave & Power Tube Div., Foundry Avenue, Waltham, Mass.

▲ For more details circle NED-1027 L1 on enclosed inquiry slip ▲

NEW!
High performance vacuum motor with diffuser type discharge

For portable commercial wet or dry cleaners or other applications requiring high vacuum and moderate air flow. Features new non-dirt-loading fan blades and air cooled fan-end bearing.

FREE! Write for descriptive Bulletin 251

THE LAMB® ELECTRIC COMPANY • KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

▲ For more details circle NED-1028 L1 on enclosed inquiry slip ▲

"CUSTOM-TAILORED" MOTORS from Lamb Electric meet exacting specifications

If your new product requires a special fractional horsepower motor, let Lamb Electric do the THINKING • DESIGN • MANUFACTURE • You get the RIGHT motor produced at the most favorable cost.

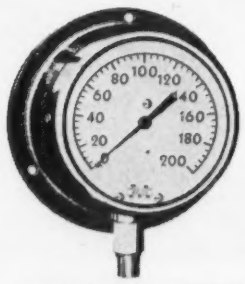
FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference"

THE LAMB ELECTRIC COMPANY • KENT, OHIO
A Division of American Machine and Metals, Inc.
In Canada: Lamb Electric — Division of Sangamo Company Ltd.—Leaside, Ontario

Lamb Electric
SPECIAL APPLICATION FRACTIONAL HORSEPOWER MOTORS

▲ For more details circle NED-1029 L1 on enclosed inquiry slip ▲

MARSHALLTOWN



The right gauge for your specific needs

MARSHALLTOWN GAUGES

A complete line of gauges in stock available for early delivery. Gauges from 10-inches water pressure to 30,000 P.S.I. to meet your specifications on any equipment.

- Pressure
- Vacuum
- Compound
- Altitude
- Combination
- Diaphragm
- Hydraulic
- Special Purpose
- Dial Thermometer (Vapor Tension or Bi-Metal)

Gauges

Let Marshalltown answer your gauge problems ...write for information and prices.

Marshalltown Manufacturing, Inc.
A SUBSIDIARY OF THE ELECTRIC AUTOLITE COMPANY
MARSHALLTOWN, IOWA

▲ For more details circle NED-1030 L1 on enclosed inquiry slip ▲

The Very Best... AT THE LOWEST COST PER HOLE

TAPMATIC
TAPPING ATTACHMENTS
Featuring

PRE-SELECTIVE TORQUE CONTROL: To prevent tap breakage and provide complete tap protection.
SELF-FEED: For eliminating "lead error" and to assure the consistent production of gage perfect tapped holes.
RUGGED ALL BALL BEARING CONSTRUCTION: Guarantees trouble-free performance for millions of holes. No gears, friction clutches, or lead screws to repair or replace.
UNIVERSAL APPLICATION: Two complete lines of attachments for machines with either non-reversing or reversing spindles.
LARGE CAPACITY RANGE: For All Taps from #00 to 1"

DUAL ACTION CUTTING FLUIDS That Chill and Lubricate for top tool performance in all metals.

RELEASING OR NON-RELEASING TAP HOLDERS With exclusive Self-Feed and Depth Control.

GEARLESS DRILL SPEEDERS With ratios from 2½x1 to 15½x1

Send for Literature

TAPMATIC CORPORATION
845 West 16th Street • Costa Mesa, California

▲ For more details circle NED-1031 L1 on enclosed inquiry slip ▲

INTRODUCING THE FINEST HOIST MONEY CAN BUY

MUNCK HOISTS

Capacities from ½ to 15 tons

352 types are available in the Munck line of 3 basic Models of electric hoists which have fixed mounts and three types of trolley mounts. Plain model moved by pushing on the load, geared chain hand drive and motor driven. Low headroom mounts are also offered. Hoists have capacities from ½ to 15 tons and incorporate a motor built inside the drum, conical electric rotor brake also load brakes. High and low position limit switch. Types 221, 223 and 225 have respective capacity ranges from 0.5 to 2, 1.5 to 6, and 2.5 to 15 tons when equipped with one, two, three or four ropes. Lift heights range from 12 to 131 ft. Operation is controlled by a suspended, enclosed pushbutton unit. Units operate on 220-440 or 550 volt, 25, 50 or 60 cycles.

COMPARE
- Quality
- Delivery
- Prices

For further information, brochures and prices, PLEASE WRITE OR WIRE

FISKER-MUNCK HOIST & COMPANY
Room 218 Sidway Bldg. 775 Main St., Buffalo, N. Y.
HUGHES MACHINERY CO. MAT. HAND. DIV.
14401 FORD RD. DEARBORN, MICHIGAN

▲ For more details circle NED-1032 L1 on enclosed inquiry slip ▲

Repair pipe leaks quickly, safely
MARMAN PATCHMASTER
Heavy-duty Pipe Repair Clamp

The Marman Heavy-duty PATCHMASTER Pipe Repair Clamp is designed to stop pipe leaks in oil, gas, water and steam lines quickly, easily, safely and permanently. Corrosion-resistant stainless steel band conforms to pipe contours, seals leak with synthetic rubber pad. Special lug design applies high torque without biting into pipe. Full range of sizes from ½" through 24" in standard pipe sizes, 2" through 8" in O. D. pipe sizes, in four different widths. Keep Marman PATCHMASTERS on hand for emergency repairs. SEE YOUR DISTRIBUTOR OR WRITE US FOR NAME OF LOCAL SUPPLIER.

Aeroquip
MARMAN DIVISION
11214 Exposition Blvd., Los Angeles, California
In Canada: Aeroquip (Canada) Ltd., Toronto 19, Ontario
Marman Products are covered by U.S. and foreign patents and other patents pending.
PATCHMASTER is an Aeroquip Trademark

▲ For more details circle NED-1033 L1 on enclosed inquiry slip ▲

NEW LITERATURE and CATALOGS

Air & Hydraulic Cylinders

FREE Bimba Mfg. Co.—Single and double acting, built-in manual valve, nonrotating rod, and built-in solenoid valve types of air and hydraulic cylinders are described in illustrated Bulletin 1260. They have ¾, 1 1/16, and 1½-in. bores and are made of stainless steel. Many have 1, 2, 3, and 4-in. strokes and others have strokes to 48 in. Prices are included.

▲ For more details circle NED-1034 L1 on enclosed inquiry slip ▲

Mathematical Handbook

FREE Curta Co.—Formulas and arithmetical rules for solving many types of problems are contained in the 64-page pocket-size handbook. Included are powers and roots, logarithms, decimal equivalents, circular arc tables, weights and measures, and conversion formulas, plus various business formulas. The Curta pocket-size calculating machine is described.

▲ For more details circle NED-1035 L1 on enclosed inquiry slip ▲

Electronic Equipment & Accessories

Descriptions of wide range of industrial electronic equipment, components, and accessories comprise this 300-page catalog. Detailed specifications are given on most products. Also listed are audio components and kits, public address systems, test equipment, batteries, and chargers. Available only by requesting on company letterhead from **Radio & Electronic Parts Corp.**, 3235 Prospect Ave., Cleveland 15, Ohio.

▲ For more details circle NED-1036 L1 on enclosed inquiry slip ▲

Snap-Action Switches

FREE Cherry Electrical Products Corp.—Line of basic snap-action switches for use in electrical, electronic, and electro-mechanical applications is subject of 20-page catalog. Included are illustrations and technical data.

▲ For more details circle NED-1037 L1 on enclosed inquiry slip ▲

Box Type Furnaces

FREE Lindberg Engineering Co.—Four series of box type furnaces, described in four 2-page illustrated bulletins, have several operating temperatures up to 2500° F and a range of work chamber sizes. Three are atmosphere type and the fourth can be so equipped. Features and specifications are included in each bulletin.

▲ For more details circle NED-1038 L1 on enclosed inquiry slip ▲

Knife Gate Valves

FREE DeZurik Corp.—Features, materials of construction, dimensions, available actuators, and application data for rubber-seated bonnetless knife gate valves are detailed in 8-page illustrated Bulletin 302. They are suited for lines carrying dry solids, abrasive slurries, viscous materials, gases, and clear liquids, and utilize the Ring-Seal seat for protection against galling or scoring of blade.

▲ For more details circle NED-1039 L1 on enclosed inquiry slip ▲

Electrohydraulic Servo Controlled Pumps

FREE Oilgear Co.—Line of electrohydraulic servo controlled pumps and system components is introduced in 20-page Bulletin 47740 which tells how they perform and where they are applied. Units are offered in capacities up to 108 gpm at 3000 psi. Space is given to typical control systems for simple open and closed circuits, multiple command, position control, and pressure control.

▲ For more details circle NED-1040 L1 on enclosed inquiry slip ▲

High Temperature Wires, Cables, Tubing

FREE Hitemp Wires Co.—58-page catalog is a compendium of high temperature wire, cable, and tubing. Its 29 sections cover government wire specifications, government and commercial specifications, new product highlights, military specifications, UL ratings, dimensions, and dielectric strength, as well as temperature ratings for magnet wire, Teflon wrapped and extruded hook-up wire, miniature Teflon lead wire, Teflon tubing, cables, and similar items.

▲ For more details circle NED-1041 L1 on enclosed inquiry slip ▲

Nylon Rod, Plate, Strip, Tubing & Shapes

FREE Cadillac Plastic & Chemical Co.—Shapes, sizes, and properties of stocked Cadco nylon rod, plate, sheet, strip, and tubing are given in 8-page brochure. Properties cover four grades. Company also offers molded nylon shapes weighing up to 25 lb or measuring 30 in. in any one dimension. Data cover moisture conditioning, machining, bonding, welding, and coloring.

▲ For more details circle NED-1042 L1 on enclosed inquiry slip ▲

Morton OPEN-GRIP Safety Grating

SELF-CLEANING DEBOSSED HOLES
UPSET PERFORATED BUTTONS ANTI-SKID IN ALL DIRECTIONS

Economical OPEN-GRIP offers "no-cost" maintenance . . . one-piece construction . . . easy installation. Ideal where mud, snow or ice make ordinary surfaces hazardous and hard to keep clean. Furnished in steel, in a variety of stock sizes, or custom fabricated. Also available in aluminum.

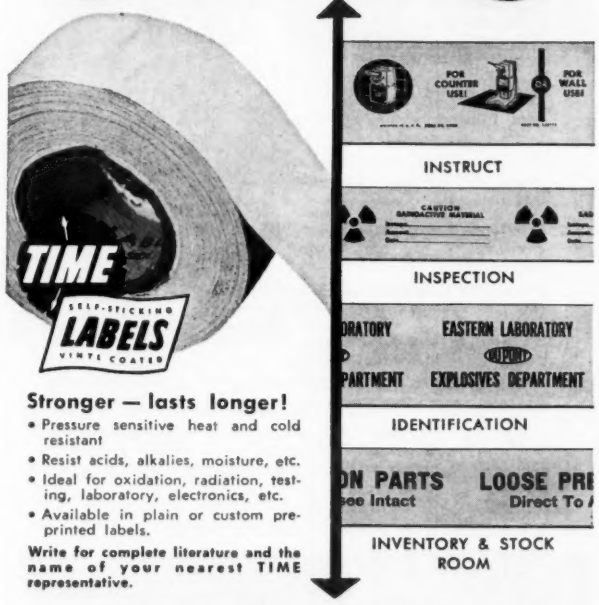
Immediate delivery in popular standard sizes

Distributed Nationally by JOSEPH T. RYERSON & SON, Inc.

Morton MADE BY MANUFACTURING COMPANY
5125 West Lake Street • Chicago 44, Illinois

▲ For more details circle NED-1043 L1 on enclosed inquiry slip ▲

INDUSTRIAL
-70°F TAPES +250°F

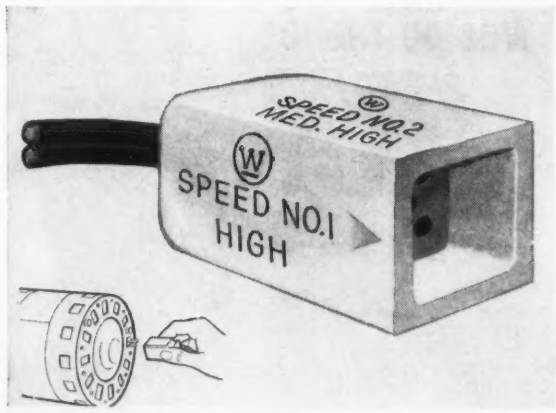


Stronger — lasts longer!
- Pressure sensitive heat and cold resistant
- Resist acids, alkalies, moisture, etc.
- Ideal for oxidation, radiation, testing, laboratory, electronics, etc.
- Available in plain or custom preprinted labels.

Write for complete literature and the name of your nearest TIME representative.

PROFESSIONAL TAPE CO., INC.
359-C Burlington Ave. • Riverside, Ill.

▲ For more details circle NED-1044 L1 on enclosed inquiry slip ▲



New 4-way connector cuts motor installation time. New connector for four speed shaded pole or permanent split capacitor motor eliminates need for matching up leads on the job, makes it impossible for installer to misconnect and burn out motor. Simply rotate connector to select proper speed and plug into matching male connector on the motor. For full information check inquiry card or write Westinghouse Industrial Motor Department, Lima, Ohio. You can be sure... if it's Westinghouse

J-03055

Westinghouse

▲ For more details circle NED-1045 L1 on enclosed inquiry slip ▲

in all kinds of tank and process heating and cooling

Exclusive Tranter MULTI-ZONE design with multiple headers and multiple condensate returns eliminates condensate "trapping" commonly encountered with pipe coils. This assures fast start-up and maintenance of desired operating temperatures.

Factory-fabricated PLATECOIL eliminates the cost of engineering and fabricating pipe coils. In addition to a wide range of sizes in "standard" MULTI-ZONE and serpentine styles, PLATECOIL can be engineered and built to your requirements of size, shape and capacity.

Operating pressures up to 250 psig. Safety factor -5 to 1. Available in most weldable metals.

PLATECOIL can be furnished to comply with ASME Code.

For complete data, write for Bulletin P-57.

Manufactured in Canada by Brodie Industries, Ltd., 44 Upjohn Rd., Don Mills, Ontario

PLATECOIL® DIVISION

heat transfer specialists

TRANTER MANUFACTURING, Inc., LANSING 9, MICHIGAN

▲ For more details circle NED-1046 L1 on enclosed inquiry slip ▲

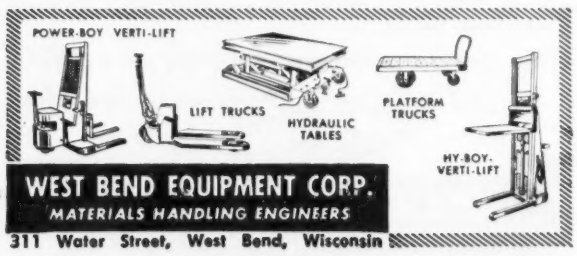
Now . . . SELF-PROPELLED

NEW... Weld-Bilt POWER-BOY VERTI-LIFT

"Weld-Bilt" PRODUCTS

For Power-Driven Handling at TODAY'S LOWEST INVESTMENT

"Double-Powered," with push-button *portability* plus *lifting*, new POWER-BOY brings power-handling equipment within the budget of every plant, every department. Electric motor operated through smooth fluid drive clutch, V-belted to "floating" rubber tired drive wheel, it moves and lifts a capacity load easily, quickly, effortlessly. Features push button forward and reverse, safety braking, 180° steering, separate battery, built-in charger. Available in standard, hinged, telescopic HY-BOY VERTI-LIFTS from 60" to 112". Write for the complete POWER-BOY facts now.

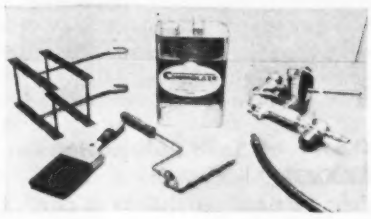


WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

▲ For more details circle NED-1047 L1 on enclosed inquiry slip ▲

NEW MATERIALS AND PROCESSES

POLYURETHANE COATINGS
hard and flexible types have many functional and decorative uses



High resistance to chemicals, solvents, and oils, as well as to dirt, impact, and ozone, make Chemglaze polyurethane coatings adaptable to a wide range of applications. Hard type for use over concrete, wood, metal, rigid plastics, and glass, and a flexible type for soft plastics, fabrics, leather, paper, rubber, and similar materials are available. Various colors and glossy or satin finishes contribute to decorative uses.

Both clear and pigmented types offered cure by reaction with atmospheric moisture, either at room temperature or with baking. Standard methods of brush, dip, flow, roller, and spray coating can be used to apply the single package coatings. Flexibility remains at −40° F. Typical applications include chemical process equipment, tanks, filters, machinery, conveyor belts, floors, walls, wire, and textile shuttles. • **Hughson Chemical Co.**, 1635 W. 12th St., Erie, Pa.

▲ For more details circle NED-1049 L1 on enclosed inquiry slip ▲

ALUMINUM WELDING PROCESS
large diameter filler wire allows butt welding of up to 3-in. plate

Method of welding thick aluminum plate deposits up to 7/32-in. diameter welding filler wire at a rate of 15 to 20 lb per hour. It uses, with simple modifications, submerged arc equipment commonly used for welding steel. Butt weldments made with 3-in. plate in 5083 and 5456 aluminum alloys exhibit mechanical properties sufficient to meet ASME boiler and pressure vessel code requirements.

Process operates in current density range of 15,000 to 30,000 amp per sq in. and varying mixtures of argon and helium can be used as the shielding gas. Only two welding passes are used with plate up to 1½ in. thick. Photo shows both halves of a single bend at about 2T radius in a 3-in. weldment of 5083 aluminum alloy plate with 7/32-in. diameter 5183 filler wire. Six passes were used with a double-U welding groove. • **Kaiser Aluminum & Chemical Corp.**, Kaiser Center, 300 Lakeside Dr., Oakland 12, Calif.

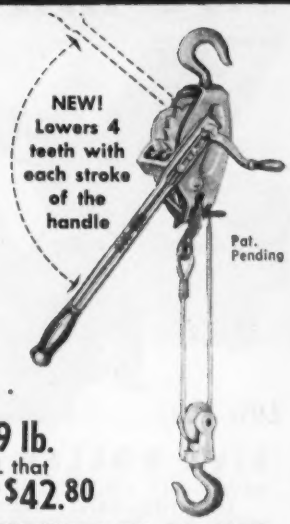
▲ For more details circle NED-1050 L1 on enclosed inquiry slip ▲

WONDER HOW WE EVER GOT ALONG WITHOUT IT!

are often heard words by satisfied

LUG-ALL USERS

YOU too will feel that way after trying one of these "FEATHERWEIGHTS" that lift, pull, stretch, bend, lower at any angle . . .



Requisition today a 9 lb. Model 310-R LUG-ALL that takes 1½ tons. Only $42.80

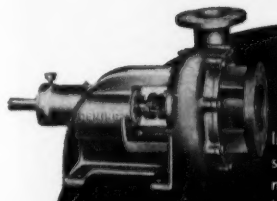
GIVES YOU THE STRENGTH OF 30 MEN

28 other models available with capacities from ½ to 2 tons and cable lengths up to 38 ft., incl. corrosion resistant marine type units with stainless steel cable.

THE LUG-ALL COMPANY
Pioneering new hoists since 1949
Haverford 8, Pennsylvania

▲ For more details circle NED-1052 L1 on enclosed inquiry slip ▲

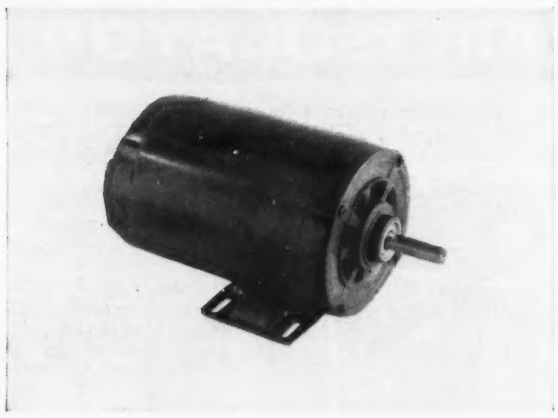
PUMPS THAT "GROW"
Versatile Centrifugal



Interchangeable on the same power frame, you need merely put larger liquid ends and motors on Deming End Suction Centrifugals to increase your pumping capacity as your production needs grow. Literally thousands of everyday parts combinations. Standard parts —no inventory problems. Write today for full information.

DEMING DIVISION CRANE CO.
1106 BROADWAY • SALEM, OHIO

▲ For more details circle NED-1053 L1 on enclosed inquiry slip ▲



New 1, 1½ and 2 h.p. motors on fractional horsepower frame sizes. Handle hundreds of applications at less cost. New integral horsepower, 56 frame, 1 and 3 phase motors, developed by Westinghouse can save you money. Perfect for hundreds of applications. (Require only half the space needed for conventional integral horsepower motors.) Check inquiry card or write Westinghouse Industrial Motor Department, Lima, Ohio. You can be sure... if it's Westinghouse

J-03056

Westinghouse

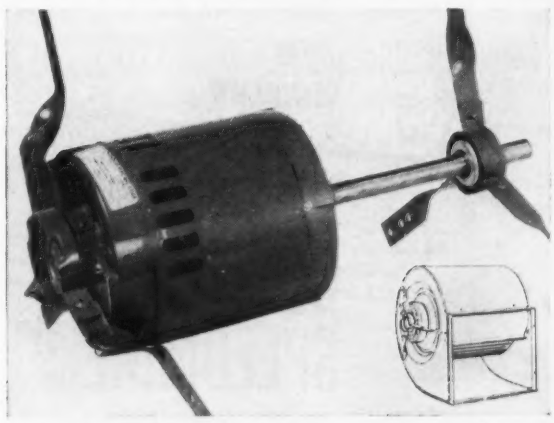
▲ For more details circle NED-1048 L1 on enclosed inquiry slip ▲

New bulletin lists best small motor buys. Free bulletin keeps you up to date on prices, quantities, and specifications of more than 500 different types of fractional hp motors, immediately available from stock. Helps you save time and money when you need motors. To receive free bulletin regularly, check inquiry card or write Westinghouse Industrial Motor Department, Lima, Ohio. You can be sure... if it's Westinghouse

J-03057

Westinghouse

▲ For more details circle NED-1051 L1 on enclosed inquiry slip ▲



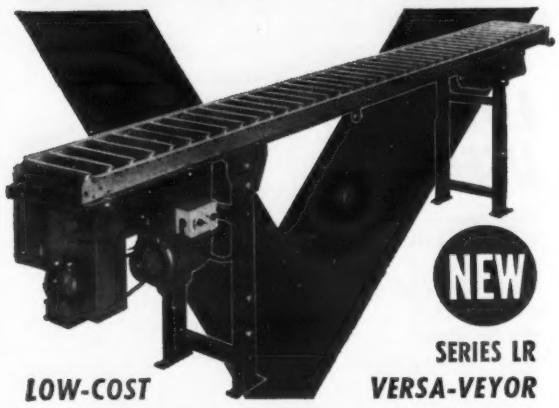
New blower motor system combines advantages of conventional belt and direct drive systems. New Flexydrive floater bearing motor system gives superior performance, reduced maintenance and lower initial costs than belt drive systems . . . and the compactness of direct drives. Get detail comparison, full information . . . check inquiry card or write Westinghouse Industrial Motor Department, Lima, Ohio. You can be sure . . . if it's Westinghouse

J-03058

Westinghouse

▲ For more details circle NED-1054 L1 on enclosed inquiry slip ▲

TWO-WAY SPEED and ECONOMY



SERIES LR
LOW-COST VERSA-VEYOR

LIVE ROLLER CONVEYOR

NEW V-BELT DRIVE TRANSFORMS GRAVITY-FLOW TO POWER-DRIVEN FLOW . . . IN SECONDS!

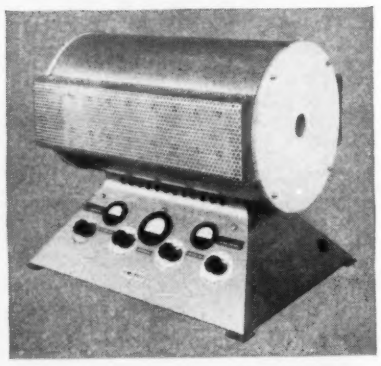
Two conveyors in one! V-Belt drive gives positive alignment and traction; adjustable pressure wheel system minimizes line pressure. Handles all packages, pallets. 12, 18, and 24-inch widths. **Write:**

VERSA Corporation
BOX 152, MT. STERLING, OHIO

For more details circle NED-1055 L1 on enclosed inquiry slip

HEVI-DUTY HIGH TEMPERATURE (TO 2600° F. - 1427° C.)

combustion tube furnace features 48 step control for each zone... fast heat up... low power consumption



Hevi-Duty Type G furnaces are especially convenient for the operator. The compact self-contained units include a base which houses all controls and instruments necessary for operation. The furnace shown is equipped with two zones of temperature control (two end circuits in parallel as one zone, and a center zone) and uses 16 Silicon Carbide elements. Excellent temperature uniformity is achieved.

Contact your lab supply house, or write for Bulletin 5403.

HEVI-DUTY

Electric and Fuel-Fired Industrial Furnace and Ovens

BPC

Hevi-Duty Electric Company
Watertown, Wis.
A Division of Basic Products Corporation

H-43-61

For more details circle NED-1056 L1 on enclosed inquiry slip

THE NEW SLOCOMB

DEPTH SPEEDMIKE

An Important New Break-through In Micrometer Design

TWICE AS FAST
ELIMINATES ERRORS
READS DIRECT
LOW COST

Eliminate "backward" interpolation, for years a problem associated with conventional depth micrometers! Be sure of your measurements . . . always . . . with Speedmike Direct Reading

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☐ Send me the name and address of your nearest distributor.
☐ Send me your new catalog called "Slocomb Speedmikes, Tomorrow's Micrometers Today".

Name .....
Title .....
Company .....
Address .....

For more details circle NED-1057 L1 on enclosed inquiry slip

NEW LITERATURE and CATALOGS

Systems & Controls for Conveyor Lines

FREE Control Engineering Co.—Systems controls for dragline, power and free, monorail, overhead, and roller conveyors are covered in 8-page Brochure 61-1. Automatic dispatching techniques, memory units, low voltage relays, timers, limit switches, synchronization components, and shielded electrification for cranes and monorails are detailed.

For more details circle NED-1058 L1 on enclosed inquiry slip

Theory of Solid Lubrication

FREE Alpha-Molykote Corp.—"Breaking Lubrication Barriers" is title of 8-page illustrated brochure which discusses the theory and use of solid lubricants. They are used to overcome such problems as galling, extreme pressures, high friction, chemical reaction, and extreme environments. Also covered are properties and uses.

For more details circle NED-1059 L1 on enclosed inquiry slip

Casters

FREE Wagner Industrial Products Co.—20-page catalog lists line of institutional and industrial casters in light and light-medium duty (CFTMA load capacity) range. Illustrations and specifications on WIP line of plate and post type casters, plus adapters, are included. Contents include a selection guide.

For more details circle NED-1060 L1 on enclosed inquiry slip

Surface Roughness Gage

FREE Micrometrical Mfg. Co.—How to designate the characteristics of surface irregularities, how to measure specific surface characteristics, and use of the Profilometer to measure the average roughness height are among subjects covered in 8-page Bulletin LT-18. Instrument conforms to ASA Standard B46-1-1955.

For more details circle NED-1061 L1 on enclosed inquiry slip

High Temperature Ceramics

FREE Laboratory Equipment Corp.—Information on such high temperature ceramic compounds as alumina, magnesia, thoria, and zirconia is given in comprehensive 32-page catalog. It also furnishes a list of sizes and prices for stocked crucibles and tubing, and presents specifications and other data on Leco-Kote flame spray tubing.

For more details circle NED-1062 L1 on enclosed inquiry slip

Make-Up Air Heating

FREE Maxon Premix Burner Co.—Air exhausted from industrial plants to remove dusts, fumes, vapors, and contaminants must be replaced by clean, fresh, heated air. This need is discussed in 8-page Bulletin AS-62 which also lists and illustrates equipment to do the job. Related technical data are included.

For more details circle NED-1063 L1 on enclosed inquiry slip

Fume & Gas Burnoff Systems

FREE Avien, Inc.—Pyron Burnoff System for disposition of corrosive, combustible and toxic fumes, gases, and liquids in industrial and lab applications is subject of 8-page brochure. System can treat a wide variety of vapors or liquids for chemical exhaust processing, smog control, and reduction of harmful manufacturing exhausts or liquid chemical wastes.

For more details circle NED-1064 L1 on enclosed inquiry slip

Boring Machine Accessories

FREE Ex-Cell-O Corp.—Features, functions, and usage of 15 varied tool and work-holding, indexing, and positioning devices for precision boring machines are reviewed in 12-page Catalog G4A. Items are designed to help meet the demand for increased production and lower unit cost.

For more details circle NED-1065 L1 on enclosed inquiry slip

Electric Panelboards

FREE Appleton Electric Co.—28-page Bulletin 661 on explosionproof dust-ignition proof, and rain-tight panelboards covers units with drains and breathers. It also gives panelboard dimensions, lists replacement breakers, and shows systematic wiring diagrams. A typical switchrack with canopy is shown.

For more details circle NED-1066 L1 on enclosed inquiry slip

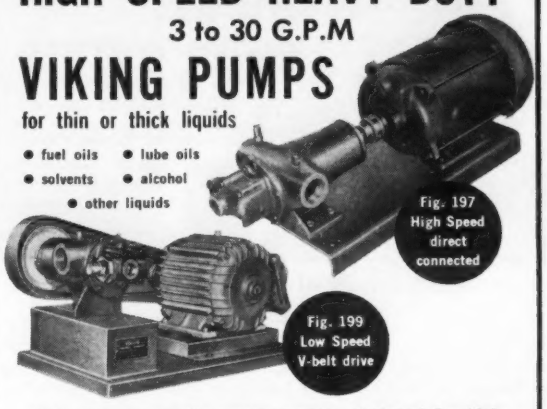
Collapsible Wire Containers

FREE Tri-State Engineering Co., Cargotainer Div. —Standard welded wire Cargotainers shown in 16-page Brochure C-101 are fully collapsible and will accommodate loads from 500 to 6000 lb. Casters, crane eyes, dividers, and other optional extras are available. Units are shown in many applications.

For more details circle NED-1067 L1 on enclosed inquiry slip

HIGH SPEED-HEAVY DUTY
3 to 30 G.P.M
VIKING PUMPS
for thin or thick liquids

- fuel oils
- lube oils
- solvents
- alcohol
- other liquids



Here you are—really rugged pumps—designed for high speed and heavy duty, giving smooth, positive delivery of thin or thick fuel and lube oil, solvents, alcohols and other liquids. They're built for continuous or intermittent duty in such applications as filtration, circulation, transferring and booster service.

Capacities range from 3 to 30 G.P.M. Speeds from 600 to 1/50 R.P.M. Temperatures range from –40 to 225 degrees F., viscosity range from 30 to 10,000 S.S.U. 100 P.S.I. for non-lubricating liquids. 200 P.S.I. for lubricating liquids.

Install these new heavy-duty Vikings and enjoy the best pumping service you've ever known!

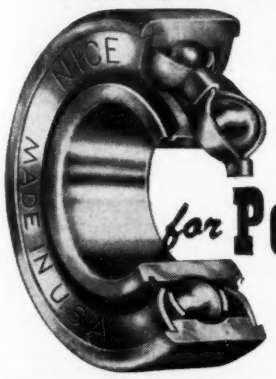
For additional information, ask for bulletin SP-522G

50 YEARS

VIKING PUMP CO.
Cedar Falls, Iowa, U.S.A. In Canada, It's "Roto-King" Pumps
See Our Catalog in Sweet's Plant Engineers File

For more details circle NED-1068 L1 on enclosed inquiry slip

COSTS UP? PROFITS DOWN?



Try **NICE** *for* **Performance** *and* **Price**

Cost-conscious manufacturers will find many cost-saving advantages offered by NICE Ball Bearings. NICE can provide a complete range of standard or custom designed unground, semi-precision and precision bearings—and Product Designers can select bearings that insure a properly functioning product, yet one that is economically produced and competitively priced.

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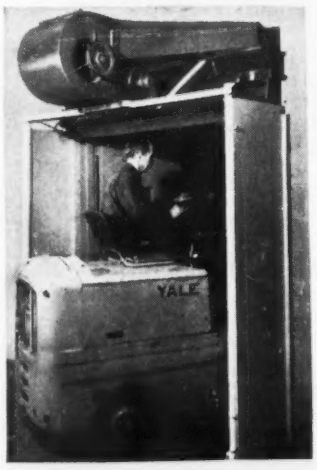
For more details circle NED-1069 L1 on enclosed inquiry slip

AIR ISOLATOR*

. . . opens doorways to unlimited traffic while screening out heat, cold, humidity, dust, odors, insects.



Forms a shield between areas of different temperature or humidity.

Provides high velocity curtain of vertical air across open doorways.

Permits unlimited traffic. Repels dust, cold, heat, odors or insects.

Broad application: Manufacturing, general industry, warehousing, food processing or laboratories.

*Registered trademark and product of Lehigh, Inc.

For complete information write today to Jamison Cold Storage Door Co., Hagerstown, Md.

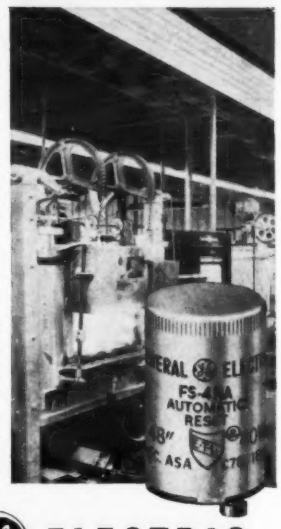
JAMISON
COLD STORAGE DOORS

For more details circle NED-1070 L1 on enclosed inquiry slip

Hints on fluorescent starter selection

Where abnormally high temperatures or voltage drops exist . . .

G-E FS-85NA or FS-4NA STARTERS ARE BEST



The automatic reset feature of these General Electric starters makes them ideal for use where unusual conditions of heat, or drops in line voltage, frequently cause accidental lock-out of lamps.

They permit easy restarting of good fluorescent lamps, while preventing blinking of burned-out lamps. Get G-E FS-85NA (two-terminal) or FS-85NA-4 (four-terminal) for 100W and 90W lamps — G-E FS-4NA, for 40W lamps.

Ask your G-E distributor for latest "G-E Starter Selection Chart and Maintenance Guide for Fluorescent Lighting" (reprinted three times!). General Electric Company, Wiring Device Department, Providence 7, Rhode Island.

GENERAL ELECTRIC

▲ For more details circle NED-1071 L1 on enclosed inquiry slip ▲

Put your finger on automation

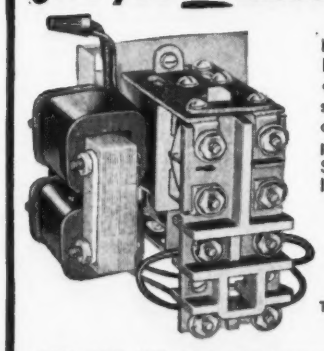
FLO-tronically

FLO-TRONICS, INC.
1330 N.E. Quincy • Minneapolis 13, Minn.
VISIT US AT THE CHEMICAL INDUSTRIES SHOW—BOOTH NO. 1115

▲ For more details circle NED-1072 L1 on enclosed inquiry slip ▲

WARRICK
Floatless, Electrode Type
LIQUID LEVEL CONTROLS

give you all these advantages!



No moving parts in the liquid • Easy to install • No adjustments necessary • Unaffected by acids or caustics • Unaffected by pressure or temperature • Standard 2&3 pole units listed by U/L

Write for 32-page Catalog which gives complete specifications

Two pole control shown at left

YOU CAN USE OUR CONTROLS FOR:

- Single & multiple pumps
- Motor & solenoid valves
- High & low cutoffs & alarms
- Sewage & waterworks
- Chemical Industries
- Food & Dairy Industries
- OEM applications

Special controls to custom requirements

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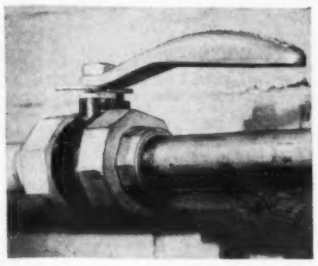
1964 W. Eleven Mile Road, Berkley, Michigan
Dep't 6 Telephone JOrdan 4-6667

▲ For more details circle NED-1073 L1 on enclosed inquiry slip ▲

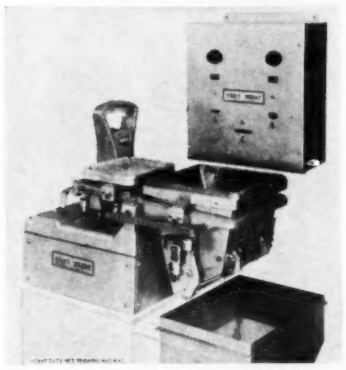
BALL VALVE
now offered with nylon seat



Control of liquid or gas flow in industrial piping systems is function of this Petro ball valve, now available with interchangeable seats of nylon. Seats of Teflon, neoprene, and Buna-N are also available (*NED, April* '61). Floating ball type valve with nylon seat is rated at 2500 psi for ¼ to ¾-in. sizes, and 2000 psi for 1 to 2-in. sizes. Operational range is −20 to 180° F. Union ends can be either screwed or welded onto pipe ends. Forged stainless steel, carbon steel, and brass valves are offered in eight sizes. • **Clayton Mark & Co.**, 1900 Dempster St., Evanston, Ill.

▲ For more details circle NED-1074 L1 on enclosed inquiry slip ▲

NET WEIGHING MACHINE
combines scale and dumping hopper



Heavy duty even balance lever scale equipped with an air-operated dump mechanism on the weigh hopper comprises the Model 630 new weighing machine. It has a 75-lb capacity and is offered with hoppers of ¾ to 2-cu ft capacities. Control sensitivity is to ½ oz. Automatic adjustable controls operate automatic valves, vibratory feeders, auger feeders, or conveyor belts. Optional equipment includes air-operated bag holders, portable stands, counters, alarm systems, automatic valves, and one or two speed vibratory feeders. Enclosures and dust removal systems can be added. Operation is on 115 v, 60 cycles ac and 60 to 125-psi compressed air. • **Exact Weight Scale Co.**, 541 E. Town St., Columbus 15, Ohio.

▲ For more details circle NED-1075 L1 on enclosed inquiry slip ▲

TWO-DOOR STEEL LOCKER
for supervisory personnel

Standard equipment provided in this two-door steel locker for supervisory personnel includes two hat shelves, five coat hooks, a hanger rod, and a separate compartment, for personal items or valuables. Master-keyed built-in locks, key operated or combination, or padlocks are optional. Locker also contains such personal grooming aids as a mirror, comb-and-brush holder, and towel bar. Sloping top to prevent litter accumulation is optional. Unit is 24 in. wide, 21 in. deep, and stands 66 in. high on 6-in. legs. Closed bases can be supplied. At slight extra cost, colors other than standard green, gray, and tan can be furnished. • **Alan Wood Steel Co.**, Penco Div., 200 Brower Ave., Oaks, Pa.

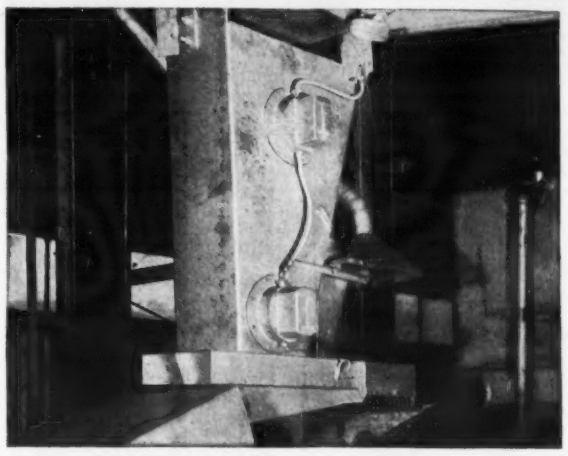
▲ For more details circle NED-1076 L1 on enclosed inquiry slip ▲

SOLID CARBIDE REAMERS
miniature type in fractional sizes

Close tolerance reaming in all materials, including steel up to Rockwell C-56, is performed by solid carbide four-flute Micro reamers. Series 9164 consists

of eight sizes from 1/64 through ⅛ in. diameter; and Series 9158 consists of decimal sizes from 0.0151 through 0.115 in. Tools have diameter tolerances of +0.0001 to 0.0003 in. • **Atrax Co.**, 240 Day St., Newington 11, Conn.

▲ For more details circle NED-1077 L1 on enclosed inquiry slip ▲



Jeffrey BIN-EYE®
sees and controls bin levels

The BIN-EYE tells an operator how full or empty a bin is—controls equipment feeding a bin or shuts off flow when contents run low. It can maintain a definite level of material in a bin.

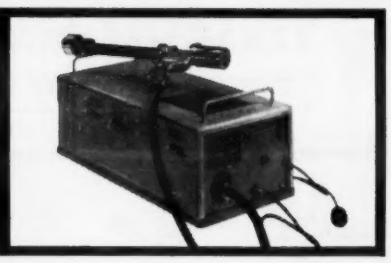
The BIN-EYE combines an attractive streamlined appearance with simplicity of construction, positive automatic operation and low cost. Rugged, yet lightweight, it is suited to operations where light, fine mesh materials demand a sensitive control; also for those using heavy, fine mesh materials.

For data and a price on the BIN-EYE, write The Jeffrey Manufacturing Company, 952 North Fourth Street, Columbus 16, Ohio.

JEFFREY

▲ For more details circle NED-1078 L1 on enclosed inquiry slip ▲

NEW



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PORTABLE POWDER SPRAYER

Provides electrostatic application of all dry powders, thermosetting plastics & enamels for industrial coating operations...Sheet Metals, Textiles, Fabricated Materials, Finished Products...

Features:

- Uniform coverages for irregular shapes, sizes or contours.
- Excellent adherence, using charged particle principle.
- Maximum Safety: Electrical discharge is harmless to operating personnel. No material over-spray requiring masks or spray booths.
- Portable/Mobile: Complete unit weighs less than 70 lbs.

Includes: 90 KV Generator, Spray Gun, Powder Container with Vibrator & Feed Control, Air-Material Hose & Cables.

Write now for technical literature:
Sames Dept. 511, 30 Broad Street New York 4, New York

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CATAWISSA gives you the solution to these piping headaches

- LOW TEMPERATURE IMPACT
- HIGH TEMPERATURE DISTORTION
- CORROSION
- OXIDATION
- PRESSURE AND SAFETY PROBLEMS

Catawissa PERFECT SEAL Unions

★ FULL ALLOY STEEL
★ FULL STAINLESS STEEL

Many special piping problems have been solved quickly, economically by Catawissa's Full Alloy or Full Stainless Steel Unions — and there's every reason to feel that yours could be, too!

Both types are available in "standard" and "double extra heavy" series — with Catawissa's exclusive 3-to-1 Safety Factor and Perfect Seal Seat Design!

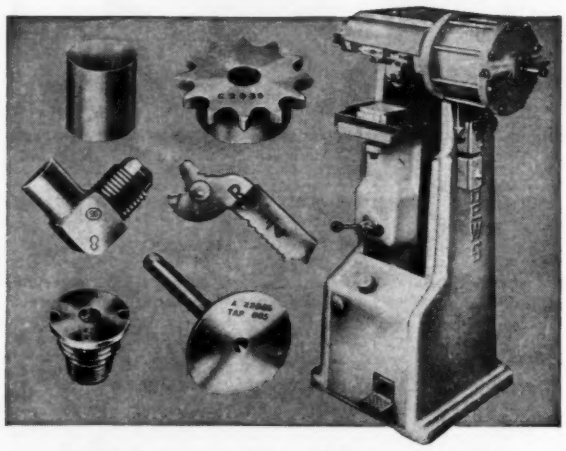
THE MOST COMPLETE LINE OF UNIONS ON THE MARKET . . . AVAILABLE AT LEADING INDUSTRIAL SUPPLY FIRMS

— write for free catalog —

CVF CATAWISSA VALVE & FITTINGS CO.
CATAWISSA, PENNSYLVANIA 1505

For more details circle NED-1081 L1 on enclosed inquiry slip

VERSATILE MARKER
for rounds or flats



If you have a variety of shapes to mark, write for Bulletin FGP 20. Full description of Matthews General Purpose Machines.

JAS. H. MATTHEWS & CO.
3962 Forbes Ave. • Pittsburgh 13, Pa.
Offices in Principal Cities

For more details circle NED-1082 L1 on enclosed inquiry slip

NOW AT GREATLY REDUCED PRICES
NUGENT SIGHT FEED VALVES
GRAVITY OR PRESSURE
¼", ⅜" & ½" IPS — PLAIN BRASS — 125 PSI

Send for Bulletin 16

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3402 CLEVELAND STREET • SKOKIE, ILLINOIS

For more details circle NED-1083 L1 on enclosed inquiry slip

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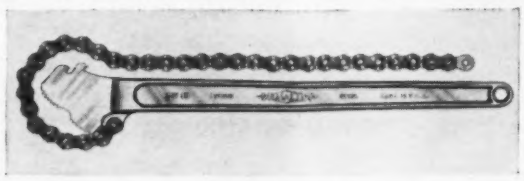
CHAIN PIPE WRENCH
15-in. tool used in either direction

This 15 in. long, double-acting CW15 chain pipe wrench can be operated in either direction without removing it from the work. Electroplated to resist



rust, the tool has a strong tapered I-beam handle and a 19-in. chain that accommodates ¼ to 5-in. pipe. • **Diamond Tool & Horseshoe Co.,** 4602 Grand Ave. W., Duluth 7, Minn.

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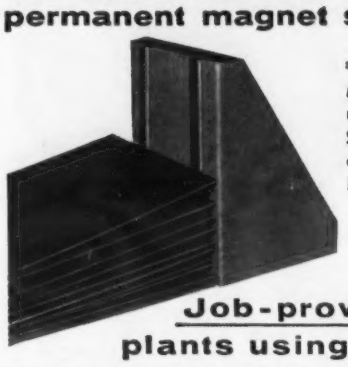

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9	24-28-32-40
10	28-30-36-40-48 64
12	20-28-32-36
14	20-24-28
1/16	60-64
5/64	72
3/32	48
7/64	48-56
1/8	32-40
5/32	32-36-40
9/64	36-40
11/64	36
3/16	20-24-32
13/64	32
7/32	24-28-32
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3/8	12-16-18-20-27-28-32-36-40-48
7/16	12-16-18-22-24-27-28-30-32-36-40
1/2	12-14-16-18-22-24-26-27-28-30-32-40
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7/8	10-12-16-18-20-24-27-28-32
15-16	8-9-10-12-14-16-18-20-24-32
1	10-12-16-18-20-24-27-32-40
1-1/16	12-14-16-18-20-24
1-1/8	8-10-14-16-18-20-24-32
1-3/16	8-10-12-14-16-18-20-24
1-1/4	8-10-14-16-18-20-24-32
1-5/16	12-14-16-18-20-24-32
1-3/8	8-10-14-16-18-20-24
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1-9/16	18-20-24
1-5/8	8½-8-10-12-13-16-18-20-24
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1-3/4	8-10-12-14-16-18-20-24
1-13/16	8-10-12-14-16-18-20
1-7/8	8-10-12-14-16-18-20-24
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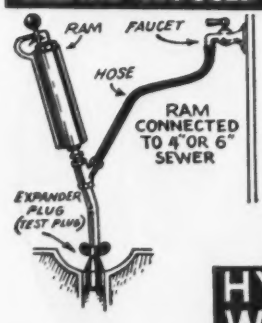

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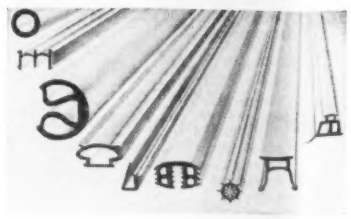

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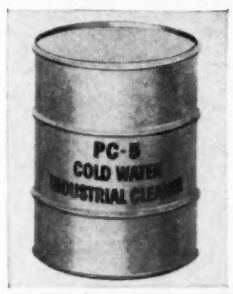

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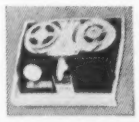

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